january
june 1965

Vol. 174

ENGINEERING NEWS-RECORD

Serving The Entire Construction Industry

Index

. . . of editorial content

McGraw-Hill, Inc.
330 West 42nd Street, New York 36, N. Y.

Read Before Using This Index

Every item appearing in ENGINEERING NEWS-RECORD is indexed with the exception of certain Briefs (such as Labor Briefs, Careers) and of Obituaries.

All articles are indexed **alphabetically** by subject. Under each heading entries are listed **chronologically.**

Many important headings are divided into sub-headings, e.g., BRIDGES—by states or countries; CITIES—by name; BUILDINGS—by type (churches, garages, etc.).

The latter part of this index contains names of authors, personalities and companies. Here are listed the names of people who are the subject of articles; names of authors of by-lined articles and published letters; and names of firms about which articles were written. Individuals or firms merely mentioned in feature articles dealing with various construction projects are seldom indexed by their names.

Items that describe new materials and equipment, including Product Briefs, are indexed under the PRODUCTS & EQUIPMENT heading, with many subheadings according to subject. Entries start with the manufacturer's name and city in case of all items appearing in the Products section of the magazine.

Entries concerning only particular projects or firms are not repeated under the general heading. For example, an article about the Smith Construction Co. appears only in the NAMES section of the Index and will not be found under the heading: CONTRACTORS. A news item about bonds issued for the New Jersey Turnpike will be listed in the New Jersey section of HIGHWAYS and will not be found under: CONSTRUCTION, •Financing, where general stories on bonds are listed.

See means that all entries on the subject will be found under another heading, thus: EROSION, **see:** SOIL

See also means that a related heading should also be checked, thus: SEWAGE, **see also:** WATER POLLUTION

The following abbreviations and signs are used:

RC — Reader Comment
CW — Construction Week
WO — Washington Observer
B — Brief and Around the World
e — Editorial
** — Article with many illustrations
* — Illustrated article (if asterisk precedes entry, reference is to a picture with caption only)

ENGINEERING NEWS-RECORD is published every Thursday. There are 25 or 26 issues in each half-yearly volume, covering January to June and July to December, starting with vol. 78 in 1917, when ENGINEERING NEWS and ENGINEERING RECORD joined forces under our present title.

If you would like any information about material that ENR has published, do not hesitate to make direct inquiry by mail or telephone to: Mrs. Eva Gierat, McGraw-Hill Inc., 330 West 42nd Street, New York, N.Y. 10036; telephone (212) 971–3507.

ENGINEERING NEWS-RECORD INDEX

January-June 1965

A

ACCIDENTS, DISASTERS, FAILURES; SAFETY; see also: SOIL; WEATHER
New church roof collapses in Mexico. CW p13 Jan 7
Calif, Oregon, Idaho flood damage reaches $1 billion **. p20 Jan 7
More facts, less propaganda wanted on earthquakes. RC p32 Jan 28
West Coast disastrous floods. p154 Jan 28
Tests for flood damage. CW p39 Jan 28
Earth and rock slides hamper Mayfield hydro, City of Tacoma, *. p49 Feb 18
Warning to contractors: liability for construction collapse. e p84 Feb 25
Oregon bridge failure laid to engineers. p25 Mar 11
Calif flood effects: Hell Hole Dam isn't a complete washout, **. p28 Mar 11
Columbia, S.C., collapsed clay bank kills seven. p51 Mar 18
Warehouse frame collapses in Cleveland. p32 Mar 25
Plaster falls into lunch in England hotel. B p19 Apr 1
Structural failures: bitter medicine does good. e p68 Apr 1
Leaky conduit buckled NYC's huge concrete sewage tank. p52 Apr 8
Tighter safety supervision on NYC school builders. B p27 Apr 29
Cable guy fails, 9 riggers killed in South Africa radio masts erection. B p27 Apr 29
Seattle and Olympia, Wash, shaken by quake, *. p22 May 6
Glen Canyon Dam apron collapses. p23 May 6
Excavation settlement, Cleveland federal buildings. B p25 May 6
Sprinklers for Palos Verdes building, *. p36 May 6
Precast girder collapse kills two in Atlanta shopping center, *. p29 May 13
Two injured by formwork collapse, school in Jacksonville, Fla., *. p29 May 13
and correction. RC p38 Jun 17
Timber trusses fall in Atlanta retail store job. p24 May 20
Seven die in collapse of Italian nearly completed apartment. p24 May 20
Torrential rain and earth slides demolish powerhouse, Baker River, Wash, *. p57 May 27
Brooklyn supermarket roof falls on shoppers, *. p59 May 27
Safety nets are manila or fiber ropes, not wire mesh. RC p4 Jun 3
Fire damages top floor of Chicago Civic Center. p22 Jun 3
Corrosion of web members blamed for Brooklyn supermarket roof collapse. p29 Jun 10
Twenty-two workmen killed in construction of conference center in Ghana. B p63 Jun 17
Expansive cement aggregate reaction destroys Ohio bridge deck **. p163 Jun 17
Denver area floods, *. p18 Jun 24

ACOUSTICS, NOISE CONTROL
Homeowners near London Airport paid to soundproof their houses. p33 Mar 25
Columbia Records builds new Nashville studio to sound just like the old one, *, diags. p36 Jun 10

ADHESIVES, see: PRODUCTS & EQUIPMENT

AERONAUTICS, see: AIRCRAFT; AIRPORTS; SPACE

AID, see: CONSTRUCTION, • Foreign

AIR CONDITIONING, HEATING, VENTILATION, see also: PRODUCTS & EQUIPMENT
Laminar air flow: RCA's dust free electronic assembly rooms in Lancaster, Pa., **. p62 May 27
Electrically heated wires cure concrete floorslab. p49 Jun 3

AIRCRAFT, AIR LIFT
Pentagon wants shelters for planes on the runway. WO p17 Mar 4
Booms no bar to commercial supersonic transport, says FAA. p24 Apr 29
Helicopter fights Mississippi River flood threats, *. p25 Apr 29
Helicopters lift Vertical Assembly Building wall panels at Cape Kennedy, Fla., *. p168 Jun 17
Helicopter installs heating units on Philadelphia plant, *. p168 Jun 17

AIR POLLUTION, see: HEALTH

AIRPORTS, see also: BUILDINGS, • Hangars, • Terminals; PAVING

• American
Loveland-Fort Collins, Colo., regional airport unit prices. p59 Jan 14
Federal aid to airports. B p49 Feb 11
Parallel jet runway boosts capacity of Atlanta airport, **. p58 Feb 18
Aircraft operations rise. B p19 Apr 1
BOAC terminal at Kennedy Airport to double as heliport. p28 Apr 22
32 airports in NYC area recommended. CW p17 Apr 29
N. E. Halaby urges expansion of D.C.'s National Airport. p21 May 6
West Yellowstone Airport to open. B p23 Jun 3
Jacksonville, Fla., will issue bonds to build airport. p59 Jun 17
Love Field is out. Dallas and Fort Worth agree. CW p51 Jun 17
Florida, Tamiami Airport, unit prices. p103 Jun 17
FAA finds better ice melter for runways. p22 Jun 24
Livermore, Calif., asphalt paving unit prices. p62 Jun 24

• Foreign
Liverpool, England: New runway will be skid resistant. p53 Jan 14
Mexico City: asphalt makes new runway, *. p147 Mar 18
Austria: Vienna runways resurfaced at night, *. p89 May 27
Montreal Airport to get moving side walks. B p23 Jun 3
Ceylon: Canadians upgrade Katunayake Airport north of Colombo. p47 Jun 3

AIR RIGHTS, see: BUILDING DESIGN; CITIES; LEGAL DEVELOPMENTS

ALUMINUM, see: PRODUCTS & EQUIPMENT

AMERICAN Associations, Societies etc – see subject

ANCHORS, see: PRODUCTS & EQUIPMENT, • Fasteners etc.

APARTMENTS, see: BUILDINGS

APPALACHIA, see: ECONOMY

APPRENTICESHIP, see: EDUCATION
see also: ETHICS & CIVIL RIGHTS

AQUEDUCTS, see: WATER RESOURCES

ARCHES, see: BRIDGES; CONCRETE; LUMBER; ROOFS; STEEL

ARCHITECTURE
AIA moves to enforce new ethics. p22 Jan 7
Competition to design Univ of Calif Arts Center. B p23 Jan 7
Architects reject fee boost; NYC faces designer shortage. p29 Feb 4
Race for office of Am Institute of Architects. CW p37 Feb 11
Massachusetts toughens architects' registration. p46 Feb 11
Bad state law: Massachusetts against architects and engineers. e p180 Feb 18
Designers and builders seek closer cooperation, Liaison Commission formed. p23 Feb 25
AIA joins fight against forcing agent label. WO p17 Mar 4
Architects – and Others. e p328 Mar 18
Against restrictive architectural registration. RC p16 Mar 25
Architecture's effect on behavior. p23 May 6
Comprehensive architectural services: broader but thinner? e p84 May 6
Big business must insist on good architecture. e p112 May 13
Business and architecture: good design is not extra frosting. RC p10 Jun 10
Morris Ketchum leads AIA war against ugliness, **. p59 Jun 10
AIA and Pan Am Conference of Architects meet in Washington, prescribe medicine for blight; C.M. Nes becomes first vicepresident, *. p19 Jun 24

ARCTIC, see: WEATHER; SOIL

AREA REDEVELOPMENT PROGRAM, see: ECONOMY

ASPHALT, see: PAVING
see also: PRODUCTS & EQUIPMENT

ASSOCIATED GENERAL CONTRACTORS, see: CONTRACTORS

ASSOCIATIONS, see subject;
see also: MEETINGS

ATOMIC ENERGY, RADIATION
see also: BUILDINGS, • Shelters; POWER
Loss of Panama Canal job may doom project Plowshare. p28 and e p84 Jan 14
Canada plans heavy-water production plant. B p32 Jan 14
Defoliation test in Puerto Rico. B p33 Jan 21
Spain launches A-plant program. p52 Feb 18
German A-plant in Bavaria is Europe's largest, *. p38 Mar 11
No new nuclear reactor on Lake Ontario now. CW p15 Mar 11
Calif and Colo nuclear power plants win tacit approval. WO p25 Mar 25
A-plant planned for Colorado. p15 Apr 1
Underground nuclear power plant for France and Belgium, *. p32 Apr 1
Los Angeles starts excavation for Corral Canyon nuclear station. p24 Apr 29
Stanford Univ atom smasher labor problems. p82 Apr 29
New England's largest A-plant. B p25 May 6
Malibu, Calif nuclear power station geologically examined. CW p21 May 13
Australia negotiates atomic blast for harbor. CW p21 May 13
Quebec Hydro to build generator at Becancour. CW p15 May 20
A-power lift planned for Tehachapi Aqueduct, Calif. p56 May 27
Great Britain to try atomic desalting. p78 May 28
Finland will turn to A-power, Ahlainen nuclear plant started. p89 May 27
World's largest proton smasher to be built. CW p13 Jun 3
Radioactive isotopes count high head turbine flows. p49 Jun 3
AEC's high-wire act and beautiful America dispute in San Mateo county, Calif. p28 Jun 10
and e p342 Jun 17
Canadians build nuclear power station at Beleii, Pakistan. B p34 Jun 10
First A-plant in Finland planned. p55 Jun 10

AUDITORIUMS, see: BUILDINGS

AUGERS, see: PRODUCTS & EQUIPMENT, • Drills

AUTOMATION, see: ELECTRONICS

AWARDS
ASCE to pick outstanding achievement of 1964. CW p21 Jan 14
Hwy Research Board present the R.W. Crum Distinguished Service Award to Saal and Wendt. CW p21 Jan 14
Three Beavers get awards for construction activities. p52 Jan 21
Am Iron and Steel Institute sponsors Design in Steel Awards Program, **. p30 Feb 4
ASCE cites 1964 design achievements, *. p59 Mar 18
Prestressed Concrete Institute gives Miami vacation. B p19 Apr 1
Welded bldg and bridge win Canadian prize, *. p18 Apr 1
Army Decoration for Exceptional Civilian Service award granted to W. J. Turnbull. p54 May 20
British architects get Reynolds award for Leicester University bldg, *. p21 Jun 3
Top Pentagon award goes to William J. Turnbull, *. p213 Jun 17

B

BARGES, see: NAVIGATION; TRANSPORTATION

BEACH PROTECTION, see: SOIL, • Erosion
see also: DAMS; WALLS (retaining)

BEAMS, COLUMNS, GIRDERS, TRUSSES; FRAMES, see also: CONCRETE; STEEL; PRODUCTS & EQUIPMENT
Architects debate adequacy of precast, exposed-aggregate columns. CW p23 Jan 21
Steel frame tests lead to plastic design conference at Lehigh, *. p47 Mar 18
Precast columns removed, reinforcing bars askew at Va. hospital job. p53 Mar 18
Cleveland warehouse frame collapses. p32 Mar 25
Plastic design for multistory frames, *, diag. p36 Apr 22
New concepts developed for plastic design of steel frames, diags. p38 Apr 22
British propose frame design method, *. p42 Apr 22
Epoxy repairs cracked beams in California. p48 Jun 3
Concrete girder carries Chicago skyscraper, *. p62 Jun 17
Concrete replaces steel for London's office bldg girders. p20 Jun 24

BIAS, see: ETHICS & CIVIL RIGHTS

BIDS, see project in question;
see: CONTRACTS & BIDS

BITUMINOUS CONCRETE, see: PAVING

BLASTING, see: EXPLOSIVES

BOLTS, see: PRODUCTS & EQUIPMENT, • Fasteners etc.

BONDS, see project in question
see also: CONSTRUCTION BUSINESS, • Financing; STATE LEGISLATION

BOOK REVIEWS
Lessons from Failures of Concrete Structures by Jacob Feld. p104 Jan 28
The Heart of our Cities–by Victor Gruen. p104 Jan 28
Construction Company Organization and Management–by George E. Deatherage. p109 Jan 28
Essentials of Structural Design–by Anthony Hoadley. p109 Jan 28
An Investigation of the Effects of Discharged Wastes on Kelp–California Water Quality Control Board. p112 Jan 28
Introduction to Structural Dynamics–by James M. Biggs. p112 Jan 28
Thin Shell Concrete Structures–by David P. Billington. p115 Feb 18
Listen to Leaders in Engineering–by Albert Love and James Saxon Childers. p115 Feb 18
Forth Road Bridge–by ACD Bridge Co. p115 Feb 18
Engineering Design–by Joseph H. Faupel. p120 Feb 18

(Continued)

(Continued)
Digest of Sewage-Enabling Acts of the State of California–Calif. Water Quality Control Boards. p120 ... Feb 18
New Buildings with Fallout Protection–Dept. of Defense. p196 ... Mar 18
Fatigue of Welded Steel Structures–by W. H. Munse. p201 ... Mar 18
Comprehensive Architectural Services–by the AIA. e p328 ... Mar 18
Nonplanar Concrete Roofs–by J. S. Terrington and F. H. Turner. p142 ... May 27
1965 Directory of Latin American Electric Utilities. Handbook for Electrical Exporters. p142 ... May 27
Behavior of Large Swiss Dams–Swiss National Committee on Large Dams. p143 ... May 27
Autocurve Tables–by James F. Wood. p143 ... May 27
Design in Structural Steel–by John E. Lothers. p143 ... May 27
Manual of Traffic Engineering Studies–edited by Don Cleveland. p144 ... May 27
Detergent Report–California Water Quality Control Board. p144 ... May 27
High Steel, Hard Rock, and Deep Water–by Richard O'Neill. p217 ... Jun 17

BREAKWATERS, see: PORTS AND HARBORS; DAMS

BRICKS, TILES, MASONRY, see: PRODUCTS & EQUIPMENT

BRIDGE DESIGN
Correction of short span bridges costs. RC p6 ... Jan 7
Part welded bridge. RC p10 ... Feb 25
Ingenuity and prestressing make low cost bridge in Mexico. **, diag. p30 ... Apr 1
Orthotropic design test. *. p30 ... Apr 22
Very high level bridge spans the Rio Grande. **. p28 ... Apr 29
Neoprene makes a bridge joint. **. p36 ... May 6
Pinned precast struts simplify prestressed girder erection for Washington lugging bridge. ** p44 ... May 13
Pipe arch welded bridge in Japan. **. p38 ... May 20
Poplar Street, St. Louis, and St. Mateo-Hayward, Calif., race for title of first major orthotropic span. p56 ... May 27
Pedestrian bridge is prefabbed. *. p116 ... May 27

BRIDGES

• American
How bridge costs vary with material, span length and region. p80 ... Jun 17

Arizona
Steel arch spans Burro Creek north of Wickenburg. *. p24 ... May 6

California
Proper credits for Oakland overpass described Oct 22. RC p6 ... Jan 7
Clearing the way for bridges. B p31 ... Feb 4
More San Fran Bay bridges planned. p23 ... Mar 4
Gothic arches carry girder span, San Mateo County. *. p23 ... Mar 4
San Mateo bridge clearance. B p57 ... Mar 18
High span leaps Oroville gorge. *. p33 ... Mar 25
Contractor rushes Douglas Bridge repair after Klamath River floods. *. p54 ... Apr 8
Orthotropic design test. *. p30 ... Apr 22
Golden Gate double deck favored. CW p15 ... May 6

Delaware
Subaqueous record. B p25 ... Mar 4
Pier foundation seal on Delaware Memorial Bridge. *. p37 ... Apr 1
Delaware Memorial Bridge is not self-anchored. RC p8 ... May 20

D.C.
Suspended ramp meets challenge, carries traffic at busy interchange. **. p28 ... Apr 1

Florida
Lee Causeway: oil-well bit drills hard rock for piles. **. p30 ... Mar 11

Iowa
Suspension bridge for aggregate carrying conveyor on Red Rock Dam spillway job. **. p26 ... Apr 1

Maryland
Twin to Chesapeake Bay Bridge. CW p23 ... Jan 21
Second Chesapeake Bay Bridge plans postponed. CW p47 ... Apr 8

Massachusetts
Legislators will examine inoperative bascule span over North River. p22 ... Jun 3

Michigan
Steel bridges never require painting. *. p51 ... Mar 25

Mississippi
Rail bridge. B p31 ... Feb 4

Missouri
St. Louis' Poplar Street orthotropic bridge delayed. p57 ... May 27

New Hampshire
Bridge piers in Portsmouth bay, unit prices. p59

New Jersey
Burlington to Bristol bridge authorized. CW p49 ... May 27

New Mexico
Very high level bridge spans the Rio Grande near Taos. **. p28 ... Apr 29

New York
$100-million crossing of western Long Island Sound. CW p43 ... Feb 18

Ohio
Excessive deck expansion destroys Massillon bridge. **. p163 ... Jun 17

Oregon
John Day River bridge demolished by flood. *. p20 ... Jan 7
Highway Commission to rebuild John Day River bridge. p33 ... Jan 21
John Day Bridge failure laid to engineers. p25 ... Mar 11
John Day bridge failure: bitter medicine does good. e p68 ... Apr 1

Pennsylvania
Philadelphia and Delair bridges across the Delaware. B p31 ... Feb 4
Burlington to Bristol bridge authorized. CW p49 ... May 27
Philadelphia's Spring Garden Street Bridge makes way for new crossing. *. p31 ... Jun 10

Texas
Beaumont railroad overpasses ease traffic woes. **. map. p34 ... Mar 25

Washington
Logging bridge rebuilt; pinned, precast struts simplify prestressed girder erection. **. p44 ... May 13

• Foreign
Australia: Precast boxes make Taren Point Bridge near Sydney. *. diag. p33 ... Jan 7
Japan: Long bridge proposed to join islands of Honshu and Shikoku, map. p36 ... Jan 7
Canada: Peace River suspension bridge has precast post-tensioned concrete deck. **. p38 ... Jan 14
Japan: Construction Ministry to conduct studies. B p33 ... Jan 21
Switzerland: New bridge for Lucern Road. **. p84 ... Jan 28
Portugal: Europe's longest span takes shape in Lisbon. **. diag. p34 ... Feb 4
British Columbia to relocate bridge. B p31 ... Feb 4
Germany: Temporary bridge overpasses Essen streets. *. p84 ... Feb 18
Jamaica: Drainage and channel require new bridges. *. p37 ... Feb 25
Sweden: Scandinavia's longest bridge opens over northern Baltic gulf. *. p40 ... Feb 25
Czechoslovakia: Ball bearings support steel bridge in Prague. *. diag. p35 ... Mar 11
Suez Bridge spans wider canal. *. p36 ... Mar 11
Portugal: Correction of Tagus Bridge article of Feb 4. RC p32 ... Mar 18
Britain's Severn Bridge unique. RC p32 ... Mar 18
Canada: Saskatoon prestressed highway bridge, unit prices. p42 ... Apr 1
Parana River Friendship Bridge opens Brazilian port to Paraguay. *. map. p16 ... Apr 1
Mexico: Ingenuity and prestressing make low cost bridge for San Nicolas sugar mill. **. diag. p30 ... Apr 1
Great Britain: Long viaduct in West London leads to M4 Motorway. **. p92 ... Apr 8
Friendship Bridge: new era for Paraguay. e p228 ... Apr 8
Denmark, not Sweden, claims longest bridge in Scandinavia. RC p14 ... Apr 22
Japan: Pipe arch will carry road traffic. **. p38 ... May 20
Canada builds 13 bridges ahead of floodway excavation around Winnipeg. *. p140 ... Jun 17
Sweden: Prefab arch floats into place in Stockholm. *. p145 ... Jun 17
France: Prestressed concrete bridges the Seine at Choisy-Le-Roi, Paris. **. p30 ... Jun 24

BUDGET, see: CONGRESS
CONSTRUCTION BUSINESS, • Financing
see also subject, e.g. SPACE, WATER RESOURCES

BUILDINGS CODES AND LAWS, see also: CITIES; ZONING
Bldg officials consider code cooperation. CW p13 ... Jan 7
Endangering neighborhood buildings. B p33 ... Jan 21
Model codes for formal houses. CW p39 ... Jan 28
New national standards and specifications organization would speed acceptance of building innovations. *. p43 ... Jan 28
Quake recorders required in Los Angeles bldgs. p27 ... Feb 4
Codes slow to adopt earthquake data. p43 ... Feb 11
Commerce Dept recommends national model bldg code. WO p17 ... Mar 11
Revised bldg code covers most Canadian cities. p56 ... Apr 8
Japan's Ministry of Construction says "raise that skyline, or else." CW p15 ... May 6

BUILDING DESIGN
San Francisco 16 story bldg shaken for seismic tests. *. p41 ... Jan 7
Architects study new system of prefab components for N.Y. State Univ. CW p21 ... Jan 14
Standardized bldg components considered. WO p23 ... Jan 14
Chicago's tapered tower will be tallest bldg outside NYC. *. p29 ... Jan 14
British government gave wrong plans to contractor. B p32 ... Jan 14
Stop revolving building; we want off. e p84 ... Jan 21
Design contests would improve public housing. RC p12 ... Jan 28
Finland concrete roof hangs from columns. *. diag. p81 ... Jan 28
Houses may emerge from plastic half shell. *. p81 ... Jan 28
Best steel designs named. **. p30 ... Feb 4
Revolutionary rotating bldgs. RC p18 ... Feb 18
Fallout protection urged. CW p15 ... Feb 25
Lev Zetlin advocates a fresh approach to structures. *. Cover and p46 ... Mar 4
Suspenders hold up Calif bank bldg. *. p51 ... Mar 18
Price of graceful simplicity: meticulous attention to detail. **. diag. p46 ... Mar 25
Designers on multiuse bldgs. *. p13 ... Apr 1
V. C. Kling designs hospitals fitted to site. **. p56 ... Apr 8
Skyscrapers' boom in New Orleans. **. p68 ... Apr 8
Steel trusses brace walls of Alcoa office, San Francisco. *. diag. p40 ... Apr 15
Precast panels double as forms for Montreal apartment. *. p45 ... Apr 15
Designing multiuse buildings. e p104 ... Apr 15
John Hancock bldg, Chicago, design criticized. RC p14 ... Apr 22
Habitat 67 – revolutionary housing project in Montreal. *. p28 ... Apr 22
Research spurs plastic design for multistory frames. *. diag. p35 ... Apr 22
New concepts developed for plastic design of steel frames, diags. p38 ... Apr 22
British propose plastic design method. *. p42 ... Apr 22
Vertical Improved Mail first system installed in Los Angeles. *. p26 ... Apr 29
Seismic design discussed at Washington symposium. p22 ... May 6
Architecture: its effect on behavior. p23 ... May 6
IBM to forego frills that do not add to a better product. CW p15 ... May 6
Germans hang floors on prestressed members; Marl city hall center offices. **. diag. p50 ... May 13
Importance of mechanicals. e p112 ... May 13
Gulf Life, Jacksonville, Fla. is tallest precast bldg in U.S. at 425 ft. *. p24 ... May 20
Bearing wall revival. p21 ... Jun 3
Reynolds memorial award goes to best architecture in Britain: Leicester Univ bldg. *. p21 ... Jun 3
GSA chief backs creative design. p22 ... Jun 3
Seismic design: San Francisco Hilton Hotel. RC p4 ... Jun 3
Curved lines predominate Washington co-ops. **. p24 ... Jun 3
Thermal stresses govern arch design, Hot Springs auditorium. *. p37 ... Jun 3
Aluminum sun visors shade Malaysian office bldg. *. p46 ... Jun 3
Brick bearing walls: structures with a future. e p96 ... Jun 10
Philadelphia parking lot air rights leased. *. p59 ... Jun 17
Motor hotel, Ohio: tall prestressed lift slab rises on tight site. *. p130 ... Jun 17

BUILDINGS, see also: ACCIDENTS & FAILURES; CITIES; HOUSING
Relocation of royal barracks in Hawaii. B p38 ... Jan 21
Contractor lowers water to straighten buildings. p82 ... Jan 28
Annual report and forecast, techniques and trends, major projects. **. p62 ... Feb 11
100-story dream to be built on bank of Chicago River. CW p15 ... Feb 25
Chicago's John Hancock tower will be 100 stories high. CW p15 Mar 4 and p23 ... Mar 25
Multiuse bldgs: some successful examples. *. p13 ... Apr 1
John Hancock Center, Chicago, will have apartments, offices, shops, garage in a 100 stories tapered tower. * p14 ... Apr 1
and RC p14 ... Apr 22
New bldgs in New Orleans. ** p68 ... Apr 8
Tishman Realty to build John Hancock Center, Chicago. CW p17 ... Apr 29
Pumping straightens Mexico bldg after earthquake. *. diag. p86 ... May 27

• Apartments, Hotels, Restaurants
Rotating apartment towers planned in San Diego, diag. p29 ... Jan 14
Houses may emerge from plastic half shell. *. p81 ... Jan 28
Big co-op project for the Bronx, map. p52 ... Feb 18
Steel joist studs a plaster wall, Spokane airport restaurant. *. p161 ... Mar 18
Plaster falls into lunch in England hotel. B p19 ... Apr 1
San Francisco home builders to sell apartments to Housing Authority. CW p47 ... Apr 8
Port Royal apartments, Montreal: precast panels double as forms. *. p45 ... Apr 15
Montreal's Habitat 67: terraced houses stacked 12 stories high. *. p28 ... Apr 22
Balloon tries proposed Hilton Hotel height in Brussels. B p27 ... Apr 29
Sprinklers for Palos Verdes building. *. p36 ... May 6
Foundations dewater Kenmore Square Apartments in Boston, Mass. *. p59 ... May 13
Danish prefabricator exports apartments to Berlin. **. p76 ... May 27
Watergate complex, Washington, D.C.: curved lines predominate co-ops. **. p24 ... Jun 3
Cost spread between U.S. and Philippine Islands hotel construction. p86 ... Jun 17
Mall Motor Hotel, Dayton, Ohio: tall prestressed lift slab on tight site. *. p130 ... Jun 17

• Churches
New roof falls down in Rijo, Mexico, killing 55 at Sunday mass. CW p13 ... Jan 7
Hyperbolic-paraboloid roof tops San Francisco cathedral. *. p49 ... Jan 28
Parma, Ohio, Holy Family Church: contractor gang-forms round concrete walls. *. diag. p38 ... Mar 4

• Culture, Entertainment, Monuments, Meetings, Sports (for FAIRS, see: CITIES)
Financial trouble for Washington D.C. stadium. B p23 ... Jan 7
Corrected credits on Pittsburgh stadium article. RC p26 ... Jan 28
National Air and Space Museum to start. CW p39 ... Jan 28
Circular cinerama theater in San Jose has lumber dome roof. **. p73 ... Jan 28
Roomiest building in world for 1970 exposition. CW p21 ... Feb 4
Arts center and amphitheater on Garden State Parkway. B p49 ... Feb 11
New Quaker City stadium. B p55 ... Feb 18
Oakland starts sports arena. *. diag. p57 ... Feb 18

New Jersey's cultural center in Trenton.**. p24 Mar 11
San Francisco cultural center planned. CW p41 Mar 18
Oklahoma State Fair arena: record cable supported roofs.**, diag. p66 Mar 18
Roofs planned for Philadelphia and New York stadiums. CW p23 Mar 25
Dallas Market Center offers big exhibition areas.**. p84 Apr 8
Cleveland Exhibition Hall built underground, doubles Convention Center area.*. p87 Apr 8
Houston stadium: dome must be blacked out.*. p31 Apr 15
Record catenary roof over Phoenix coliseum, Arizona state fairgrounds.*. p30 Apr 22
Houston stadium dome painted white.*. p24 Apr 29
St. Louis Gateway Arch needs 322 extra days. CW p15 May 6
New dome over Shea Stadium. CW p15 May 20
Garden State Parkway, N.J., plans art center. e p210 May 27
Shea stadium roof will not hide fly balls, diag. p20 Jun 3
Hot Springs auditorium, Ark: thermal stresses govern arch design.*. p37 Jun 3
Opera house and theatre to be built in London. B p34 Jun 10
Brace stabilizes St. Louis arch.*. p22 Jun 24

• Federal, Municipal, State
Capitol Hill's latest addition criticized as new House Office bldg opens.*. p19 Jan 7
HHFA bldg sets example for federal offices.*. p30 Jan 14
and correction RC p32 Feb 18
General Services Administration will call for bids on D. C. buildings. p31 Jan 21
Criticizing the new House Office Building. e p84 Jan 21
Yugoslav company to build Ethiopian Imperial Palace. B p31 Feb 4
Five firms barred from GSA work; Cleveland federal office bldg suffers. p156 Feb 11
Rayburn House Office Bldg story called factual and fair. RC p10 Feb 25
Dispute over payment for U.S. embassy in London settled. p148 Mar 18
California plans big spending on correctional institutes. CW p47 Apr 8
Federal offices request halved, table. p86 Apr 15
No steps to new post office bldgs. WO p51 May 27
GSA and AGC approach harmony on bid shopping. WO p15 Jun 3
GSA chief, L. B. Knott Jr. backs creative design. p22 Jun 3
Will GSA replace Architect of the Capitol on Library of Congress annex job. CW p51 Jun 17

• Garages, Service stations
Contractor liable for Newark garage collapse. p31 Jan 21
Major claims are dropped in collapse suit. p49 Jan 28
Newark garage collapse: a warning to contractors. e p84 Feb 25
Tall parking tower.*. B p206 Jun 17

• Homes
Welders join precast panels in low cost tropical homes, Jamaica.*. p86 Feb 18

• Hospitals
Facade of Roanoke, Va., hospital stalled. CW p23 Jan 21
Roanoke Valley Hospital, Va.: precast columns removed, reinforcing bars askew. p53 Mar 18
Philadelphia and Univ of Conn. to build hospitals; V. C. Kling architect.**. p56 Apr 8

• Industrial plants
Printing plant in Finland: concrete roof hangs from columns.*. diag. p81 Jan 28
Crash program in Ford, Chrysler and GM stamping plants.**. p36 Apr 29
Turkey opens steel plate plant.*. p22 Jun 3
Helicopter installs heating units on Horn & Hardart's Philadelphia center.*. p168 Jun 17

• Laboratories, Libraries, Communications, Research
Portugal's CE lab attracts world clientele.**. p70 Feb 18
U.S. clients of portuguese lab identified. RC p16 Mar 25
Hydraulics lab in Vicksburg, Miss., is world's largest.**. p70 Apr 8
San Diego library has waffle slab roof.**. p36 May 13
RCA's dust free rooms in Lancaster, Pa., laminar air flow.**. p62 May 27
Bell Telephone's research center, Holmdel, N.J.; giant skylight links 4 bldgs.*. p27 Jun 10
Columbia Records builds new Nashville studio to sound like the old one.*. diags. p36 Jun 10

• Offices
First National Bank, Chicago, a tapered tower, will be tallest outside NYC.*. p29 Jan 14
Peachtree Center, Atlanta, Ga., has removable 28-story section.**. diag. p34 Jan 21
Plans for McGraw-Hill and Port Authority Building. CW p39 Jan 29
West's tallest skyscraper opens, 52-story First National Bank in Dallas.*. p29 Feb 4
Times Tower gets marble face, Allied Chemical Corp. to move in.*. p44 Feb 11
Sun Life Insurance, Baltimore: giant trusses carry tower walls.**. p67 Feb 18
Richmond, Va., Market Service conical bldg has no corridors.*. p23 Feb 25
Wells Fargo bldg, San Francisco: piles brace sheeting around excavation.**. p26 Mar 11
Sherman Oaks, Cal., bank bldg: seven floors hang from roof.*. p51 Mar 18
IBM's Milwaukee bldg: price of graceful simplicity means meticulous attention to detail.**. diags. p46 Mar 25
First step for World Trade Center. B p19 Apr 1
Steel trusses brace walls of San Francisco Alcoa tower. diag. p40 Apr 15
Occidental Center Tower, Los Angeles, is first to install vertical mail distribution system.*. p26 Apr 29
Marl, Germany: city hall center offices have floors hanging on prestressed members.**. diag. p50 May 13
Gulf Life Insurance, Jacksonville, Fla., is tallest precast at 28 stories.*. p24 May 20
Wells Fargo bldg, San Francisco: ultrasonic tests bare weld defects.*. p58 May 27
Tokyo office wall is a craggy cliff to climb.*. p84 May 27
Alameda Bldg, San Jose, Cal.: site precasting for nine story office.**. p30 Jun 3
Kuala Lumpur, Malayasia: aluminum sun visors shade American Assurance bldg.*. p46 Jun 3
Phila elevated office over parking lot.*. p59 Jun 17
Chicago's Brunswick Bldg: concrete girder carries skyscraper.*. p62 Jun 17
London's Fenchurch St. 24 story bldg: steel unweldable, concrete steps in. p20 Jun 24

• Prefabs, Standardized systems
C. I. T. classrooms. B p25 Mar 4
Britain promotes prefabs. B p19 Apr 1
Contractor's role defined for system-built schools. p28 May 13
Danish prefabricator exports apartments to Berlin.**. p76 May 27

• Schools
Univ of Calif competition for Arts Center design. B p23 Jan 7
New system of prefab components studied for N.Y. State Univ Buffalo campus. CW p21 Jan 14
State Univ of N.Y., Albany campus: plastic forms give smooth finish to concrete.**. p34 Jan 14
Univ. of Virginia in Charlottesville: Precast dome spans 282 feet.**. p66 Jan 29
No frills in British schools. CW p21 Feb 4
Bids open on final half of Albany campus. p61 Feb 4
Model school is teacher's pet. B p57 Mar 18
William James Hall, Harvard's white panelled 14 story tower for school of psychology.*. p29 Mar 25
Drive is on to pass school aid bill. WO p11 Apr 1
Contractor's role defined for system built schools. p28 May 13
Leicester Univ. engineering bldg gets Reynolds award as best architecture in Britain.*. p21 Jun 3

• Shelters
Pentagon wants shelters for planes on the runway. WO p17 Mar 4
Chinese A-bomb warms up fallout shelter idea. WO p15 Jun 3

• Shops, Shopping centers
Apparel Mart completes Dallas Market Center.**. p84 Apr 8
Hong Kong shopping center built on new pier.*. p146 Jun 17

• Storage, Silos, Warehouses, Tanks
Cold storage for natural gas makes a big market, diag. p67 May 27
and correction RC p38 Jun 17
Hawaiian steel erector raises warehouse roof for more sugar.*. diag. p93 May 27
Huge tank on wheels stores asphalts.*. p57 Jun 10

• Terminals
BOAC terminal at Kennedy Airport to double as heliport. p28 Apr 22

• Towers
FAA to start construction on 15 standardized control towers.*. p29 Jan 21
Niagara Falls tapered observation tower concreted in slipforms.**. diag. p32 Feb 25
FAA's first control tower to be built in Tunisia. B p27 Apr 29
Hobbs, New Mexico, cooling tower has plywood stacks.*. p54 May 13

BUREAU OF PUBLIC ROADS, see: HIGHWAYS

BUREAU OF RECLAMATION, see: SOIL; WATER RESOURCES

C

CABLES, WIRE, see also: PRODUCTS & EQUIPMENT

CAISSONS, COFFERDAMS, see: BRIDGES, DAMS, SOIL, • Foundations

CANALS, CHANNELS
New Panama Canal will pose problems. e p76 Jan 7
Loss of Panama job may doom project Plowshare. p28 and e p84 Jan 14
Canal between Atlantic and Pacific. CW p39 Jan 28
Mexico to start coastal canals. p88 Jan 28
Florida canal cleaned by plant-eating sea cows. B p31 Feb 4
Boston Channel job unit prices. p50 Feb 4
New Panama Canal talks go well. CW p37 Feb 11
Foreign companies eligible to bid Spanish canal job from Seville to Atlantic; map. p46 Feb 11
Canal solves Calif water plan problem. p49 Feb 11
Jamaica: channel will drain storm runoff, divert river into Kingston Harbor.*. p37 Feb 25
Wellton-Mohawk Canal in Arizona will help Colorado River's salinity problem; map. p17 Apr 1
Panama Canal study commission appointed. WO p23 Apr 22
Los Angeles Channel, unit prices. p55 May 20
Huge canal will divert Red River flood waters around Winnipeg.**; map. p138 Jun 17
Elevated canal, locks, keep Belgian shipping on the move.**. p34 Jun 24

CAPITAL SPENDING, see: ECONOMY
see also: BUILDINGS, • Industrial plants

CAUSEWAYS, see: BRIDGES

CITIES, see also: BUILDING CODES; HOUSING; ZONING
Air rights and air pollution are a grave problem for city planners. e p76 Jan 7
Federal land acquisition policy is a hodgepodge. WO p23 Jan 14
A beacon of planning: Year 2000. p172 Jan 28
Cape Kennedy and moonport is planner's laboratory as population soars.*. p44 Feb 4
Planners strive to control traffic and sprawl.**. p62 Feb 11
Calif urban renewal still stalled. p48 Feb 18
Federal grants for cities' transit start to roll. p50 Feb 18
Hwy officials endorse beauty; see urban emphasis after 1972.*. p21 Feb 25
Administration to study local codes, zoning and taxes. p20 Mar 11
Cities: a national problem. e p84 Mar 11
Quest for better planning in urban renewal. B p27 Apr 29
Burying power lines and scenic beauty. e p342 Jun 17
Medicine for city blight. p19 Jun 24
City problems; cabinet status for Housing. e p96 Jun 24

Atlanta, Georgia
Peachtree Center has removable 28-story section.**. diag. p34 Jan 21

Baltimore, Md
Buses for rapid transit. p32 May 13

Beaumont, Texas
Railroad overpasses will ease traffic woes.**. map. p34 Mar 25

Berlin, Germany
Moat and fence to replace infamous Berlin Wall? CW p15 Mar 4

Boston, Mass.
Bids for Haymarket Square in Charlestown subway. CW p21 Apr 22

Cleveland, Ohio
City must fix leaky sewers. p48 Jan 28
Federal grant assures construction of rail transit to Hopkins Airport. p325 Jun 17

Dallas, Texas
Apparel Mart completes huge Market Center.**. p84 Apr 8

Hong Kong
Shopping center on new harbor pier.*. p146 Jun 17

Kansas City, Mo
May go to court for Missouri River pollution. p25 May 6

London, England
Concrete and steel viaduct over Great West Road.**. p92 Apr 8
Pedestrian deck above Piccadilly Circus. B p23 Jun 3

Los Angeles, Cal
City rides its sixth rail plan; map. p306 Mar 18
Transit proposals collect in Los Angeles. p53 Apr 1
Setback for rapid transit. CW p49 May 27
Redevelopment lags.*. p73 Jun 10

Mexico City
Contractor lowers water to straighten buildings. p82 Jan 28
Main avenue extended 2 miles.*. p20 Mar 11

Montreal, Canada
City will have 100 miles of expressways by 1970. CW p21 Jun 10

Moscow, Russia
Urban renewal.**. p24 Mar 4
New subway: flashy speeds and automation.**. p54 Jun 10

New Haven, Conn
Aerial surveying gives 1 in. -40 ft maps.**; diag. p46 Jan 14

New Orleans, La
Celebrates growth with skyscraper bldg boom.**. p68 Apr 8

New York, N.Y.
Ellis Island will become part of 500-acre park in N.J.: B p32 Jan 14
Small site complicates big sewage plant.**; map. p62 Jan 28
Bronx cheers big co-op project; map. p52 Feb 18
Subway improvements: ideas from other cities. e p96 Jun 10
Park planned on Ellis Island. p59 Jun 17
Thirsty city to pump Hudson River water. CW p11 Jun 24

Philadelphia, Pa
Court upholds bid shop twist. p28 Jan 14
Housing rehabilitation program nears test. p56 Feb 4
Transportation improvements aid city's renaissance.*; map. p44 Apr 22
Subway to serve shipyard. CW p15 May 20

Rio De Janeiro, Brazil
Letter from Rio: Exploding population makes Latin beauty lift her face.**. p74 Jan 28

San Francisco, Cal
War Memorial Cultural Center planned. CW p41 Mar 18
Labor peace pledged for transit job. p58 Apr 8
Eichler Homes, Inc. to sell apartments to Housing Authority. CW p47 Apr 8
BARTD opens test track.*. p35 Apr 22
Transit tie ins in Bay Area. B p27 Apr 29
Contractors eye Bay Area transit job. p184 May 27
Standardized elevated transit sections cast.**. p32 Jun 3

(Continued)

(Continued)

Seattle, Washington
20-mile rail transit system. B p25 ... Mar 4

St. Louis, Mo
Flood protection system provides benefits before it's finished.**, map, diag. p28 ... Jan 7

Tel Aviv, Israel
City builds up, not out.**, p52 ... Jan 14

Trenton, N.J.
New Jersey's cultural center builds domed planetarium.**, p24 ... Mar 11

Washington D.C.
Fitting cities to the future: Boston starts year 2000 plan.**, diag. p53 ... Jan 28
Congress will reconsider capital's transit system. p52 ... Feb 18
Suspended ramp meets challenge at Southwest Freeway and South Capitol St.**, p28 ... Apr 1
Transit system ready for approval. CW p21 ... Apr 15
Watergate complex: apartments, office, hotel, garage in curved shapes.**, p24 ... Jun 3
Transit plans move ahead. p325 ... Jun 17

CIVIL DEFENSE, see: BUILDINGS, • Shelters

CIVIL RIGHTS, see: ETHICS

CIVILIAN INDUSTRY TECHNOLOGY, see: CONSTRUCTION INDUSTRY, RESEARCH AND TESTS

COATINGS, see: PRODUCTS & EQUIPMENT, • Adhesives etc

COLUMNS, see: BEAMS & COLUMNS; CONCRETE; STEEL

COMPUTERS, see: ELECTRONICS

CONCRETE, see also: PAVING; PRODUCTS & EQUIPMENT
Concrete contractors bid for professional status at Miami meeting. p45 ... Feb 11
American Concrete Institute discusses computers in design; elects A.A. Bates at San Fran annual meeting. p25 and p49 ... Mar 11
Concrete work faces stoppage in Detroit. p73 ... Mar 25
Prestressed Concrete Institute awards Miami vacation. B p19 ... Apr 1
Portland Cement issues Concrete Technology Instructor's Guide. B p19 ... Apr 1
Prestressed Concrete Institute awards program June 1. B p32 ... May 13
ACI compliments ENR on construction inspection. RC p8 ... May 20
Tough tests for concrete joints in Skokie, Ill.*. p180 ... Jun 17
Stress-Fast method controls cracks.*. p24 ... Jun 24
California attacks drying shrinkage of concrete. p29 ... Jun 24

• Additives; Aggregates
Nuclear scale automatically weighs aggregates on the move for Mich hwy job.*. p45 ... Feb 25

• Cement
Cement conveyor gallery sealed with silicone rubber.*. p158 ... Mar 18

• Forms
Plastic forms give smooth finish to concrete campus, N.Y. State Univ, Albany.**, p34 ... Jan 14
Canadian contractor concretes tapered tower in slipforms, Niagara Falls.**, diag. p32 ... Feb 25
Contractor gang-forms round concrete walls for Ohio church.*, diag. p38 ... Mar 4
Slipformed cores lead precast work for office bldg, San Jose, Cal.**. p30 ... Jun 3

• Mixing and Placing, Reinforcing, Tensioning
Electrically heated wires cure concrete floorslab. p49 ... Jun 3

• Precast, Prestressed
Canadian suspension-bridge has deck of precast post tensioned concrete.**, diag. p38 ... Jan 14
Contest in concrete. B p32 ... Jan 14
Welders join precast panels in low cost tropical housing, Jamaica.*. p86 ... Feb 18
Prestressed low cost bridge in Mexico.**, diag. p30 ... Apr 1
Precast concrete makes Calif fishing pier.*, diag. p81 ... Apr 8
Prestressed tension members, precast collars & hangers for German bldg.**, diag. p50 ... May 13
Site precasting for San Jose, Calif, Alameda office bldg.**. p30 ... Jun 3
On site casting sequence for San Fran Bay rapid transit elevated structure.**. p32 ... Jun 3
Tall prestressed lift slab in Dayton, Ohio.*. p130 ... Jun 17
Prestressed concrete ties used on mainline railroad in North Carolina. B p63 ... Jun 17
Prestressed concrete girders replace steel for London office bldg. p20 ... Jun 24
New prestressing system limits slab cracks.*, diag. p24 ... Jun 24
Prestressed concrete bridge over the Seine near Paris.**. p30 ... Jun 24

CONGRESS, FEDERAL ISSUES. See also subject discussed.
State of the Union message: no crash program planned to achieve Great Society. WO p15 ... Jan 7
Budget: New programs gain at the expense of old ones. WO p41 ... Jan 28
Senate gives the Johnson program a fast start. WO p23 ... Feb 4
President to Congress: beautify hwys, rivers, cities. p45 ... Feb 11
Congress may continue multiemployer bargaining probe. p53 ... Feb 18
Busy Congress gets housing bill. p19 ... Mar 11
Great Society bills speeding through. p21 ... Mar 11
Administration to study local codes, zoning and taxes. p20 ... Mar 11
Foreign agents. p17 Feb 25, p17 Mar 4, e p84 ... Mar 11
Pentagon vs McNamara vs Congress. WO p43 ... Mar 18
Pentagon to trim overseas spending. WO p43 ... Mar 18
Congress acting fast on construction bills. WO p49 ... Apr 8
Lobbyist are hip deep in issues; construction issues in Congress. p21 ... Apr 29
Environmental Science Service Administration will consolidate Cost & Geodetic Survey and Weather Bureau. p57 ... May 27
Technical Services Act would set up local information centers. p20 ... Jun 3
Base closing issue may kill military construction bill. p27 ... Jun 10
President kills initial version of bill to aid flood areas. p30 ... Jun 10
President hopes veto won't be needed on military bill. WO p53 ... Jun 17
More for BuRec, less for Corps in fiscal 1966 budget. p325 ... Jun 17
AEC and federal vs local government on scenic beauty. e p342 ... Jun 17
Congress warns BuRec and Corps to stop duplicating studies. CW p11 ... Jun 24
Congress hikes recreation's role; funds for fiscal 1966. p79 ... Jun 24

CONSTRUCTION BUSINESS, see also: ECONOMICS
Review of materials, manpower, machinery, money failure trends; annual report and forecast. p56 ... Feb 11

• Advance Planning
New heavy construction plans in 1964 reached $44 billion, graphs, table. p17 ... Jan 7
January new advanced planning declines, table. p61 ... Feb 4
ENR backlog of advance planning. p59 ... Feb 11
ENR-reported new advance planning in 1964. p60 ... Feb 11
New plans rise in February, table. p63 ... Mar 4
Private construction booms; advance planning tables Jan-Mar p57 ... Apr 8
New plans fall 24%, April table. p69 ... May 6
Factories raise plans backlog; advance planning table for May. p77 ... Jun 10

• Contracts
Nine states had half of 1964 construction contracts, table. p27 ... Apr 15
Contracts dip in first quarter, table. p66 ... Jun 3

• Costs, Cost Indexes
ENR cost indexes hit new highs in Feb. p61 ... Feb 4
Cost control faces rugged test; first quarterly cost roundup pp77-146 ... Mar 18
Bldg costs may rise 17% by 1970. p78 ... Mar 18
Bldg cost ranges in eastern cities by region. p82 ... Mar 18
How leading cost indexes are made and what they measure. p88 ... Mar 18
Cost indexes for 10 types of bldgs. p90 ... Mar 18
Handy-Whitman public utility cost indexes. p92 ... Mar 18
Utility, refinery costs indexes. p93 ... Mar 18
Bldg equipment prices, indexes. p94 ... Mar 18
Hwy and hydro cost indexes. p96 ... Mar 18
Water and sewage cost indexes. p98 ... Mar 18
Outlook for the 4 M's. p100 ... Mar 18
Contractor competition cuts NYCity school costs. p108 ... Mar 18
Upstate New York school costs. p110 ... Mar 18
NYC public housing costs. p112 ... Mar 18
Where the bldg dollar goes, tables. p114, p116 ... Mar 18
Second quarterly cost roundup. pp64-117 ... Jun 17
Faster cost rise requires tighter cost control. p64 ... Jun 17
Hwy bid prices trend upward; hwy price indexes. p66, p68 ... Jun 17
How bridge costs vary with design, material and region. p80 ... Jun 17
Irrigation and hydro costs and indexes. p82 ... Jun 17
Sewerage costs and indexes. p84 ... Jun 17
Bldg contractors hike their prices; ENR construction and bldg indexes. p86 ... Jun 17
Hotel construction costs, Philippine Islands vs U.S. p86 ... Jun 17
Outlook for the 4 M's. p90 ... Jun 17
Where the bldg dollar goes. p100 ... Jun 17

• Financing, see also: ECONOMY; LEGISLATION & FINANCE
Defense Dept. halts 17 jobs. p33 ... Jan 21
New budget shows a drop for construction, table. p44 ... Jan 28
Mississippi water bonds sell in spite of civil rights angle. CW p37 ... Feb 11
Tax exempt industrial development bonds draw fire again. WO p45 ... Feb 18
Big highway deals for Arkansas and Louisiana. CW p15 ... Feb 25
Calif sells $100m of bonds for water projects. p69 ... Feb 25
Calif vote set on $850m water bond proposal. p73 ... Mar 25
Defense construction to cost $2 billion, table by states & foreign countries. p25 ... May 20
Construction funds for fiscal 1966 voted in Congress. p79 ... Jun 24

• Forecasts, see also: ECONOMY
Outlook for 1965, annual report and forecast. p52 ... Feb 11

• Foreign
World Bank, Inter-American Development Bank, AID give loans for irrigation. p36 ... Jan 7
President reveals plans for foreign aid, tables. p28 ... Jan 21
U.S. may allow trade with Rumania. p48 ... Jan 29
The brain drain: foreign students find U.S. jobs, do not return home. e p180 ... Feb 18
Aid loans: debt service on development loans slows growth. p86 ... Apr 15
Britain clamps down on construction wages. p34 ... Apr 22
Japan scrambles for overseas market.*. p77 ... Apr 29
Firestone Co. will not build rubber plant in Rumania. WO p17 ... May 6
Vietnam: construction increases as war expands, map.**. Cover and p 25 and e p112 ... May 13
British housing in financial difficulties. CW p49 ... May 27
Vietnam may cool off for private contractors. WO p15 ... Jun 3
Foreign aid problems, personnel and wages. RC p43 ... Jun 17
South East Asia construction increased. p63 ... Jun 17

• Materials and Labor Prices
Cement, aggregate, concrete: Paving brick, block, asphalt, road oils: p50 Jan 7, p51 Feb 4, p54 Mar 4, p164 Apr 8, p57 May 6, p65 Jun 10.
Iron and steel: Pipe and tubing: p60 Jan 14, p139 Feb 11, p58 Mar 11, p77 Apr 15, p75 May 13, p92 Jun 17.
Lumber; Glass; Explosives; Piles; Chemicals: p54 Jan 21, p136 Feb 18, p106 Mar 18, p71 Apr 22, p56 May 20, p97 Jun 17.
Tile, brick, lime; Paint, roofing; Plaster, vermiculite, metal bldg sheets: p135 Jan 28, p53 Feb 25, p60 Mar 25, p59 Apr 29, p155 May 27, p63 Jun 24.
Wage rates; Bldg board and lath and insulation: p140 Jan 28, p56 Feb 25, p43 Apr 1, p62 Apr 29, p56 Jun 3.

• Scoreboard
Wage rates, Material prices, ENR index review: p60 Jan 7, p55 Feb 4, p62 Mar 4, p203 Apr 8, p66 May 6, p72 Jun 10.
ENR cost indexes in 22 cities; Industrial plant advance planning: p70 Jan 14, p152 Feb 11, p67 Mar 11, p83 Apr 15, p88 May 13, p65 Jun 3.
Backlog: p64 Jan 21, p157 Feb 18, p305 Mar 18, p78 Apr 22, p71 May 20, p324 Jun 17, p77 Jun 24.
Equipment orders & Price indexes; Employment, Materials shipments; Contractor failures: p149 Jan 28, p67 Feb 25, p67 Mar 25, p73 Apr 29, p179 May 27.
State & municipal bonds; Federal grants for nonfederal jobs; Machinery price index: p52, Apr 1, p65 Jun 3.

• Unit Prices
Arkansas River Lock and Dam 4. p49 ... Jan 7
Michigan flood control project. p59 ... Jan 14
Contractor wins bi-city airport. p59 ... Jan 14
Costa Rican waterworks relief. p53 ... Jan 21
$93,000 per lane-mile Oregon highway. p129 ... Jan 28
Highway bids top estimate. p129 ... Jan 28
Dam complicates Boston Channel job. p50 ... Feb 4
Ohio reservoir job gets 11 bids. p50 ... Feb 4
Bethlehem, New York, water mains. p138 ... Feb 11
California road repairs. p138 ... Feb 11
Texas dam 12% under estimate. p133 ... Feb 18
Louisiana levee fill costs 45 cents a cu yd. p133 ... Feb 18
Baltimore Harbor dredging. p133 ... Feb 18
Contractors must keep sewer dry. p52 ... Feb 25
Seattle suburban sewers. p52 ... Mar 4
Thirteen compete for Wakefield, Mass. sewer job. p58 ... Mar 11
Tri-city Arizona outfall sewer. p58 ... Mar 11
Rock plagues tunneler on Rochester, N.Y. sewer system, diag. p118 ... Mar 18
Miami's outfall into the Atlantic. p122 ... Mar 18
Alabama water supply system. p124 ... Mar 18
Traffic limits contractor tackling water main job in Ala. p126 ... Mar 18
Michigan's biggest earth excavation road job. p128 ... Mar 18
Bridge piers in Portsmouth bay. p59 ... Mar 25
Concrete water main in Arkansas. p59 ... Mar 25
Canadian prestressed highway bridge. p42 ... Apr 1
Tennessee water main. p42 ... Apr 1
Colorado Springs water pipeline job. p163 ... Apr 8
Sewerage costs reach new highs. p163 ... Apr 8
Concrete prices are key to Oklahoma power tunnel. p76 ... Apr 15
Freeport, N.Y. paving job. p69 ... Apr 22
Boston waterfront landfill job. p55 ... Apr 29
Hawaii road paving. p55 ... Apr 29
Mass. waterfront landfill job. p55 ... Apr 29
Hawaii road surfacing draws only two bids. p55 ... Apr 29
Iowa interceptor sewer work. p53 ... May 6
Sewer plant and line costs advance slightly in March. p53 ... May 6
Texas flood gate for hurricanes. p73 ... May 13
Calif. channel digging. p73 ... May 13
Los Angeles channel. p55 ... May 20
Kansas levee award. p55 ... May 20
Essex County, N.J. sanitary sewers. p151 ... May 27
Pumping station concrete costs $80 per cu yd. p151 ... May 27
Washington sewage facilities. p55 ... Jun 3
Ten bid for structures on South Dakota highway. p55 ... Jun 3
Eight contractors compete for flood control jobs in Iowa. p64 ... Jun 10
Florida, Tamiami Airport. p103 ... Jun 17
Milwaukee water main. p104 ... Jun 17
New York water main. p109 ... Jun 17
Texas water pipeline. p110 ... Jun 17
New Mexico Interstate highway. p110 ... Jun 17
Chevlon Canyon Dam, Ariz p112 ... Jun 17
Tacoma, Wash, thin arch dam. p117 ... Jun 17

CONSTRUCTION INDUSTRY
"Fate" of the Union: construction important in Great Society plans. e p84 ... Jan 14
Construction's weakest link may still be inspection. p58 and e p172 ... Jan 28
Annual review: men who made marks in '64, marks that need making in '65. e p170 ... Feb 11
Architects, engineers, contractors revamp liaison. WO p45 ... Feb 18
British professions learn each other's business, architects, engineers, surveyors, builders. p53 ... Feb 18
Weak link a weak argument. RCs p6 ... Feb 25

Designers and builders seek closer cooperation; liaison commission formed. p23 Feb 25
Ohio groups form Construction Advancement Program. p76 Mar 25
Pursuit of efficiency and pursuit of excellence. e p88 Mar 25
Inspector or designer is weakest link? RCs p8 Apr 15
Construction industry issues in Congress. p21 Apr 29
House committee approves construction industry promotion bill. p70 May 6
ENR's stand on inspection complimented. RC p8 May 20
Technical Services Act would set up local information centers. p20 Jun 3
No barriers for ideas. e p96 Jun 10
Construction inspectors: quality control depends on improved cooperation, ASCE meeting finds. p18 Jun 24

CONSULTANTS, see: ENGINEERING

CONTRACTORS; BIDS & CONTRACTS
AGC New Orleans chapter cleared. CW p13 Jan 7
Small bldgs stir big furor as AGC accuses GSA of bid shopping. p61 Jan 7
Louis Perini reveals secret of success. **. p54 and cover. e p84 Jan 14
NYState charges bidding boycott by subs. p69 Jan 14
Constants among change: what younger contractors must learn. e p84 Jan 14
AGC members will bid abroad. CW p23 Jan 21
Bids called on 15 towers. *. p29 Jan 21
Stick with the bidding system. e. p84 Jan 21
NYState contractors bidding boycott and monopoly suit. p153 and e p172 Jan 28
Construction's weakest link may still be inspection. *. p58 and e p172 Jan 28
AGC was not co-sponsor of federal mediation. RC p12 Feb 4
Bid shopping: explain it to the judge. RC p20 Feb 11
NYState contractors deny bid boycott monopoly. p42 Feb 11
International contractors get a problem. p159 Feb 18
Maintenance by contract: NLRB eases curb on contracting out. p19 Feb 25
Contract system at issue again; bill due in Congress; sub listing on U.S. jobs. p69 Feb 25
Associated Builders and Contractors open doors to affiliates. p71 Feb 25
Canadian Construction Asso upholds general contracting system. e p84 Feb 25
Warning to contractors on safety of their methods. e p84 Feb 25
Freedom of choice: specialty contractors; federal legislation. e p84 Mar 4
Top defense contractors listed. CW p15 Mar 11
Contractor-managers learn to manage; Carolinas AGC starts ambitious program. *. p45 Mar 18
AGC convention: subcontractor listing plan approved. *. p27 Mar 25
Ira H. Hardin, AGC head, to lift contracting's image. Cover and p54 Mar 25
Subcontractor associations complete merger study. p73 Mar 25
Subcontracting rule explained. p75 Mar 25
Idaho passes contractor licensing and statute of limitations laws. p53 Apr 1
Cost estimating: management ties it in at the top. diags. p63 Apr 8
Hold harmless clause attacked by NYState contractors. p206 Apr 8
AGC approves subcontractor-listing method. e p228 Apr 8
Subcontracting can be big business – mechanical firm in Dallas finds out. **. p70 Apr 15
Two big contractors headed for new ownership. p85 Apr 15
Contractor license law asked in Illinois. p81 Apr 22
Estimators' ideas find response. RCs p8 May 6
Bldg Contractors Asso of N.J. moves in on bias. p70 May 6
Sublisting stirs controversy. RC p8 May 13
Contractor's role defined for system-built schools. p28 May 13
Contractor failures renew rise; table. p94 May 13
Suit against contractors fails in Westchester. p94 May 13
Nature and economics hit contractors' profits; business tables. p19 May 20
Mich. group joins Associated Builders and Contractors. CW p15 May 20
Contractor license in Illinois. RC p14 May 27
GSA and AGC approach harmony on bid shopping. WO p15 Jun 3
Interior to follow GSA on subcontractor listing. WO p23 Jun 10
Big week for water resources bids. p26 Jun 10
Self employed contractors' trouble: fair game for unions. p81 Jun 10
AGC against situs picketing bill. p81 Jun 10

CONVEYOR BELTS, see: PRODUCTS & EQUIPMENT, • Materials handling

CORPS OF ENGINEERS, see: ENGINEERING

CORROSION
Corrosion of web members blamed for Brooklyn supermarket roof collapse. p29 Jun 10

COURT CASES, see: LEGAL

CRANES, see: PRODUCTS & EQUIPMENT

CRITICAL PATH METHOD, see: MANAGEMENT

CULVERTS, see: PIPES; TUNNELS

D

DAMS, see also: LOCKS; POWER; RIVERS
Variety of designs for concrete floodwalls in St. Louis. diag. p30 Jan 7
California to tighten up dam safety laws. p22 Feb 25
Nylon dam controls Hong Kong water supply. p102 Apr 8
Electronic dam signals approved in Los Angeles. p27 Apr 29
Beavers aren't eager builders. B p25 May 6
Big week for water resources bids and contracts. p26 Jun 10
Bureau of Reclamation completed six storage dams. B p63 Jun 17

• American

Allegheny Dam, Kinzua, Pa
Ready to control floods. *. p51 Feb 18

Arkansas River Dam #4
Lock and dam unit prices. p49 Jan 7

Auburn-Folsom, Cal
Earthfill dam approved. WO p49 Apr 8

Chevelon Canyon Dam, Arizona
Unit prices. p112 Jun 17

Cochiti Dam, Rio Grande, N.M.
Sixth largest earth dam started. p21 Mar 4

Dardanelle Dam, Arkansas River
One of 17 dams makes river navigable for 450 miles. *. p38 Mar 25

Eufaula Dam, Canadian River
Part of all over Arkansas River plan. *. p40 Mar 25

Fall Creek Dam, Oregon
To be completed next fall. B p34 Jun 10

Forney Dam, Dallas, Texas
Estimate under 12%, unit prices. p133 Feb 18

Garrison Dam, North Dakota
Irrigation job approved. p30 Apr 22

Glen Canyon Dam, Colorado River, Ariz.
Bill paid with compliments. p49 Jan 28
Tailrace apron collapses. p23 May 6

Grand Coulee, Wash
Proposal for construction of third powerhouse. *. diag. p30. Jan 21

Hell Hole Dam, Rubicon River
Calif flood effects: dam isn't a complete washout. ** p28 Mar 11

Homestake Dam, Colorado
Blast produces 1m cu yd of aggregate. *. p28 Jan 10

Ice Harbor Dam, Wash
Cracked navigation lock repaired. **. diags. p26 May 6

Libby Dam, Kootenai River
Trains to go under dam temporarily; map. p61 Jun 17

Lower Granite Dam & Lock, Snake River
Money held up in Senate-House fight. WO p17 May 6

Lower Monumental Dam, Snake River
Cofferdam breeched second time. CW p17 Apr 29

Marble Canyon Dam, Arizona
Money approved. CW p21 May 13

Matilija Creek Dam, Cal
Concrete arch to undergo surgery. *. p29 Apr 22
Calif. dam demolition to start. CW p21 May 13
Surgery instead of demolition. CW p51 Jun 17

Mayfield Dam, Cowlitz River
Tacoma's unlucky project hampered by slides. *. p49 Feb 18
Another million dollars may improve dam's luck. p22 Jun 24

Mossyrock Dam, Cowlitz River
Tacoma begins work on new dam. p49 Feb 18
Thin arch dam, unit prices. p117 Jun 17

Priest Dam, Stones River, Tenn
Will reduce flood damage to Nashville. **, map. p38 Apr 15

Priest Rapids Dam, Washington
First power on line is 16 months ahead of schedule. CW p15 May 20

Red Rock Dam, Des Moines River, Iowa
Concrete spillway job: conveyor and suspension bridge cheaper than truck hauling. **. p26 Apr 1

Swift Dam, Montana
Concrete arch to replace historic dam. B p49 Feb 11

Wells Dam, Columbia River
Power capacity raised. p22 Feb 25

• Foreign

Africa
Sudan's Roseires Dam will be 10 miles long. **. diag. p38 Jun 3
Aswan dam passes halfway mark. **. p60 Jun 17

Asia & Pacific
Pakistan: Mangla dam will not be heightened. CW p9 Apr 1
Hong Kong's Plover Cove water supply: nylon dam controls Taipo River. p102 Apr 8
East Pakistan's coastal embankment. *. map. p150 Jun 17

Canada
Only two bids submitted for Arrow Dam, Columbia River. p55 Feb 18
British Columbia rejects both bids on Arrow Dam. p21 Mar 4
Arrow dam under contract. CW p15 Mar 11
Portage Mountain Dam work resumed after winter. CW p21 Apr 15

Europe
France: Malpasset acquittal appealed. B p32 Jan 14
Landslide will become a dam in Yugoslavia. p82 Jan 28
Germany's largest reservoir behind Bigge Valley Dam will aid thirsty Ruhr. **. diag. p41 Feb 4
France: U.S. methods and machines build Mont Cenis Dam in the Alps. **. map, diag. p62 Feb 10
Netherlands: Cableway places rockfill for Gravelingen Dam. *. diag. p82 Feb 18
Italy: Place Moulin gravity arch towers 502 ft. *. diag. p52 Apr 22
France: Mont Cenis Dam credits. RC p8 May 13
Norway's Tokke hydro development, Venemo Dam. **. map. p70 May 27

Middle East
Finnish company to build Iraq's Eski-Mosul Dam on Tigris River. B p23 Jun 3

Russia
Model of Nurek Dam tested; 984 ft to be world's highest. p46 Feb 11

South America
Peru starts big Mantaro power project high in the Andes. diags. p38 Jan 21
Chile' first arch dam starts on Rapel River. *. p152 Mar 18
Surinam River dam gets aluminum skins. *. p175 Jun 17
Brazil dedicates Furnas Dam, breaks ground for Estreito Dam. *. p40 Jun 24

DEBRIS, GARBAGE, see: HEALTH; see also: CITIES

DEFENSE, see: AIRPORTS; BUILDINGS, • Shelters; SPACE; CONSTRUCTION BUSINESS, • Financing

DESALTING, see: WATER SUPPLY, • Treatment

DETERGENTS, see: WATER POLLUTION

DISASTERS, see: ACCIDENTS & DISASTERS

DISCRIMINATION, see: ETHICS

DOCKS, see: PORTS AND HARBORS

DOMES, see: ROOFS

DOORS AND WINDOWS, see: PRODUCTS & EQUIPMENT

DRAFTING, see: PRODUCTS & EQUIPMENT, • Instruments see also: SURVEYING

DRAINS, see: PIPES; SOIL; TUNNELS; WEATHER

DRAWING, see: PRODUCTS & EQUIPMENT, • Instruments see also: SURVEYING

DREDGING, see: SOIL, • Dredging see also: PRODUCTS & EQUIPMENT, • Dredges

DRILLING, see: PRODUCTS & EQUIPMENT, • Drills

DROUGHT, see: IRRIGATION; WATER RESOURCES; WEATHER

DRYDOCKS, see: PORTS AND HARBORS

E.

EARTHMOVING, see: PRODUCTS & EQUIPMENT; SOIL

EARTHQUAKES, see: ACCIDENTS; BUILDING CODES; SOIL

ECONOMY, see also: CONSTRUCTION BUSINESS; TAXATION & TARIFFS
No crash program planned to achieve Great Society. WO p15 Jan 7
Small bldgs stir big furor as AGC accuses GSA of bid shopping. p61 Jan 7
Britain develops a new incomes policy. p62 Jan 7
Free enterprise Dec 24 editorial praised. RC p10 Jan 14
President outlines ambitious program for Great Society. *. p25 Jan 15
Devaluation–What would happen if . . . p69 Jan 21
Free Enterprise still at stake. RC p12 Jan 28
U. S. may allow trade with Rumania. p48 Jan 28
New York State contractors in monopoly suit. p153 and e p172 Jan 28
Appalachia approach will be used for other areas. WO p39 Feb 11
Public works too slow as antirecession tool. WO p39 Feb 11
Appalachia bill sets big precedent; proposed hwys map. p47 Feb 18
Capital spending outlook pleases the Administration, but unemployment is a thorn. WO p17 Mar 11
Less federal competition with private business is only a hope. p306 Mar 18
Appalachia economic development threatened by acid mine drainage. p33 Mar 25
Economic development bill to create "little Appalachias". p15 Apr 1

(Continued)

(Continued)

Correction on gold standard and devaluation story of Jan 21. RC p32 ... Apr 8
Advice on spending Appalachia funds. WO p23 ... Apr 15
Interest on aid loans too high for developing countries to bear. p86 ... Apr 15
Relaxing East-West trade is a knotty problem. WO p17 ... May 6
Capital spending plans for 1965 are 15% up, table. p19 ... May 6
McGraw Hill's capital spending survey makes a rosy picture. e p84 ... May 6
Local materials to be used in Appalachia jobs. WO p23 ... May 13
Appalachian resources study. B p32 ... May 13
Initial Appalachia projects endorsed; development roads map. p73 ... May 20
Kansas City real estate and NYC investment bank establish City Reconstruction Co. p73 ... May 20
Natural beauty has its price, White House conference told. *. p17 ... Jun 3
To stimulate economies in depressed areas, public works set the pace, map. p25 ... Jun 10
Flood areas aid initial version bill killed. p30 ... Jun 10
No more multimillion dollar SBA's set-asides. p56 ... Jun 17
SBA: more perspective on smallness. e p96 ... Jun 24

EDUCATION & APPRENTICESHIP, see also: BUILDINGS, •Schools

President reveals plans for education, tables. p28 ... Jan 21
Engineering teachers and construction experience, RC p20 ... Feb 11
Sophisticated courses for Corps of Engineers. CW p43 ... Feb 13
Widened education for British students of architecture, engineering, bldg, surveying. p53 ... Feb 18
The "brain drain": foreign students stay in the U.S., do not return home. e p180 ... Feb 18
More engineering students. B p25 ... Mar 4
British builders shorten apprenticeship training. p321 ... Mar 18
Contractors and management education. e p88 ... Mar 25
Brain drain explained: why foreign students stay in the U. S. RC p9 ... Apr 22
Britain spreads burden of apprenticeship costs. p193 ... May 27
Plumbers union to increase apprentices by 10 per cent. CW p13 ... Jun 3
Univ. of Rhode Island offers program in ocean engineering. B p34 ... Jun 10
Apprenticeship is drifting in confusion, Atlantic City conference told. p80 ... Jun 24

ELECTRICITY, see: POWER

ELECTRONICS, AUTOMATION, COMPUTERS see also: PRODUCTS & EQUIPMENT, •Communications, etc.

Computer cooperative catches on. **. p51 ... Jan 21
Nuclear scale automatically weighs materials as it loads. *. p45 ... Feb 25
Computers aid concrete design. p25 ... Mar 11
IBM copyrights time-sharing computers. B p57 ... Mar 18
Don't fight computers, join them, Detroit conference experts warn architects and engineers. p53 ... Mar 18
Pursuit of efficiency in hwy design and construction. e p88 ... Mar 25
New computer program and new report form improve scheduling. p20 ... Apr 1
Smaller radio telescope at Sugar Grove, W. Va. WO p23 ... Apr 22
Electronic dam alarms approved in Los Angeles. p27 ... Apr 29
Computer program speeds navigation lock repairs. *. diags. p26 ... May 6
Gamma rays probe underwater sediment. p105 ... May 27
Computers design Washington's curved Watergate complex. **. p24 ... Jun 3
Computer service by satellite to remote construction. WO p23 ... Jun 10

ENGINEERING

Participation in world market. RC p10 ... Jan 14
Space exploration gives work load to Corps of Engineers. B p32 ... Jan 14
Let's keep the old works of engineering. RC p26 ... Jan 28
Large old consulting firm forges success from versatility. **. p48 ... Feb 4
Value engineering pushed as Corps of Engineers trains personnel. CW p37 ... Feb 11
Portugal's CE lab attracts world clientele. **. p70 ... Feb 18
Consulting firms surveyed by size, table. p158 ... Feb 18
Bad state law: hardship for Massachusetts architects and engineers. e p180 ... Feb 18
Consultants' foreign agent problem may end. WO p17 ... Feb 25
"Roster of Professional Engineers in Private Practice" published. p23 ... Feb 25
More hwy work for consultants: Professional Services Procurement Act. p22 ... Mar 4
More than lip service in National Engineers Week. e p84 ... Mar 4
Who is an engineer? RCs p8 ... Mar 18
Value engineering gets push from McNamara. WO p43 ... Mar 18
Kentucky moves to stop proselyting of engineers. p51 ... Mar 18
Civil engineers urged to defend their profession. p56 ... Mar 18
Intuition and structural engineering. RCs p22 ... Apr 8
Value engineering saves, pays on some jobs. p54 ... Apr 8
Professionals are not foreign agents if not political. WO p23 ... Apr 15
National Academy of Engineering elects 19 new members. p72 ... Apr 15
PE to the barricades: status of engineers and architects. RC p9 ... Apr 22
California consultants consoled on hwy design assignments. p26 ... Apr 22
Civilian civil engineer killed in Vietnam. p23 ... Apr 29
Consultants on California hwys. e p96 ... Apr 29
Hwy engineers as urban transportation planners. e p88 ... May 20
More on intuition and structural engineering. RC p9 ... May 27
"Ingeneers" as against engineers. RC p42 ... May 27
Engineers get guide book for practice in foreign countries. CW p49 ... May 27
Civil engineers must register. B p59 ... May 27
Engineers' professional responsibility for water resources. e p210 ... May 27
Technical information centers proposed; consultants and NSPE would amend. p20 ... Jun 3
Who speaks for consultants? e p84 ... Jun 3
Reserving the word "engineer" in Pa. B p23 ... Jun 3

•Employment, Fees, Manpower

Federal engineers may get salary boosts. WO p19 ... Apr 29
Bigger pension deductions for self-employed engineers. WO p15 ... Jun 3

•Societies

American Society of Civil Engineers
To pick up outstanding achievement of 1964. CW p21 ... Jan 14
Urged to defend profession at Water Resources conference. p56 ... Mar 10
Cites design achievements of 1964. *. p59 ... Mar 17
Survey report on cost estimating in contracting companies, diags. p63 ... Apr 8
William J. Hedley is nominee for president. *. p53 ... May 27
St. Louis conference finds quality control depends on improved cooperation. p18 ... Jun 24

Association of Consulting Engineers, London, England
Forms British Overseas Service Bureau for engineering and construction abroad. CW p13 ... Jan 7

Consulting Engineers Council
Elects new slate of officers. *. p60 ... Apr 22
Rivalry with National Society of Professional Engineers. **. p54 ... May 27
S. A. Bogen on money or principle
Michael Baker and CEC. RC p16 ... Jun 17

Engineers and Architects Council of Oregon
"State professionals stand united for 45 years. *. p136 ... May 27

Engineers Joint Council (The)
Elects new Secretary. p102 ... Jan 28
What role for the EJC? e p180 ... Feb 18

International Federation of Consulting Engineers (FIDIC)
Seeks ways to expand services at Denmark meeting. p31 ... Jun 10

National Association of Government Engineers
Starts local chapters, membership grows. p28 ... Jan 14

National Society of Professional Engineers
Publishes "Roster of Engineers in Private Practice". p23 ... Feb 25
Rivalry with Consulting Engineers Council. **. p54 ... May 27
At odds with Asso of Government Engineers. CW p11 ... Jun 24

Society of CPM Consultants
New society forms in Levittown Pa. B p34 ... Jun 10

ENGINEERING NEWS-RECORD

Meager coverage of foreign projects. RC p32 ... Mar 18
Praised by American Concrete Institute for approach to construction inspection. RC p8 ... May 20
Courage and guts on human rights issue. RC p4 ... Jun 3

EPOXIES, see: PRODUCTS & EQUIPMENT, •Plastics

EQUIPMENT, see: PRODUCTS AND EQUIPMENT

ETHICS; CIVIL RIGHTS

Cleveland's federal bldg contract: showdown on bias? CW p13 ... Jan 7
Bias on U.S.-backed jobs invites federal management. WO p15 ... Jan 7
Architects move to enforce new ethics. p22 ... Jan 7
Discriminating contractors will lose Catholic dioceses construction in Michigan. CW p21 ... Jan 14
Showdown on bias expected in Cleveland. p71 ... Jan 14
Construction industry may face racial demonstrations in New York City. CW p39 ... Jan 28
1965 drive on bias: law enforcement instead of demonstrations. *. p25 ... Feb 4
Rates beat rights: successful water bonds sale for Mississippi. CW p37 ... Feb 11
President's Committee for Equal Employment Opportunity bars 5 firms from GSA work p156 ... Feb 11
Calif urban renewal stalled through civil rights issues. p48 ... Feb 18
N.J. University job: new complaint ties bias to hiring halls. p163 ... Feb 18
President's Committee on Equal Employment Opportunity lifts sanctions against discriminating Cleveland contractors. p71 ... Feb 25
NLRB rebukes Meany on bias. p66 ... Mar 4
New approach to civil rights. e p84 ... Mar 11
Alabama products boycotted in San Francisco. CW p23 ... Mar 25
Road scandals spur new laws. p28 ... Apr 15
NAACP demands labor opportunities on New York City apartment project. CW p21 ... Apr 15
California's fair housing test this summer. CW p21 ... Apr 22
Legal controls: penalties for hwy construction offenses. e p96 ... Apr 22
W. M. Blount, Alabama contractor, active in politics and civil rights. e p96 ... Apr 29
Civil rights demonstrations and protests. CW p17 ... Apr 29
New Jersey contractors move in on bias. p70 ... May 6
Business management confused on Negro employment. e p84 ... May 6
President's Committee on Equal Employment Opportunity names coordinators. p93 ... May 13
New York NAACP steals labor's thunder, more public works demanded. p327 ... Jun 17

EXCAVATING, see: SOIL; see also: PRODUCTS & EQUIPMENT

EXPLOSIVES, see also: PRODUCTS & EQUIPMENT

Blast produces 1 million cu yd of aggregate for Homestake Dam, Colorado. *. p28 ... Jun 10

EXPORT-IMPORT BANK, see: CONSTRUCTION, •Foreign

EXPORTS, see: ECONOMY; see also: TAXES & TARRIFS

F

FAILURES, see: ACCIDENTS AND FAILURES

FAIRS, see: CITIES; see also: BUILDINGS, •Culture, Entertainment

FANNIE MAE (Federal National Mortgage Association), see: HOUSING

FEDERAL AVIATION AGENCY, see: AIRCRAFTS; AIRPORTS

FIRE, see: ACCIDENTS & SAFETY see: PRODUCTS & EQUIPMENT, •Fire Protection

FISH, see: DAMS; RIVERS; WATER POLLUTION

FLOODS, see: ACCIDENTS; RIVERS; WEATHER

FLOORS, see: PRODUCTS & EQUIPMENT, •Ceilings & Floors

FLUORIDATION, see: WATER SUPPLY, •Treatment

FOUNDATIONS, see: BRIDGES; BUILDINGS; PILES; SOIL

FRAMING, see: BEAMS & COLUMNS; CONCRETE; STEEL; ROOFS

FROST, see: WEATHER

FUEL, see: PRODUCTS & EQUIPMENT, •Engines, Fuels

G

GARAGES, see: BUILDINGS

GARBAGE, see: HEALTH; BUILDINGS, •Incinerators

GAS, see: PIPES; UTILITIES; BUILDINGS, •Storage

GENERAL SERVICES ADMINISTRATION, see: BUILDINGS, •Federal

GIRDERS see: BEAMS

GLASS, see: PRODUCTS & EQUIPMENT

GROUT, see: CONCRETE; PRODUCTS & EQUIPMENT; SOIL

H

HAULING, see: PRODUCTS & EQUIPMENT

HEALTH, see also: WATER POLLUTION

Air pollution and air rights are a grave city planning problem. e p76 ... Jan 7
Omaha meat packers' incinerator: why feed cows before slaughter? RC p10 ... Jan 14
Garbage converting plants planned in Fla and Wash. CW p21 ... Feb 4
PHS and TVA convert wastes into fertilizer. CW p37 ... Feb 11
Chicago declares war on smog. B p57 ... Mar 18
PHS urges states to revise pollution laws. p56 ... Jun 17
HEW and state of Michigan agree on Lake Erie cleanup. p20 ... Jun 24
Water quality standards, PHS policy. e p96 ... Jun 24

HEATING see: AIR CONDITIONING, HEATING

HIGHWAY DESIGN, MAINTENANCE & SAFETY see also: WEATHER

Hwy Research awards presented. CW p21 ... Jan 24
Hwy officials endorse beauty. *. p20 ... Feb 25
Maintenance costs will rise steadily. e p84 ... Feb 25
Hwy safety engineers criticized at Senate hearings. WO p25 ... Mar 25
Mississippi Valley highway officials will not pay for beauty. CW p23 ... Mar 25
Pursuit of efficiency. e p88 ... Mar 25
Minn., N. Y., and Maine to beautify highways. B p19 ... Apr 1
Road safety and costs examined; safety research fund planned. p18 ... Apr 1
To preserve hwy beauty. e p68 ... Apr 1
Road-men confer on quality control. p28 ... Apr 15
1980's roads will be different: Cornell study of "Century Expressway". *. p25 ... Apr 22
Methods and materials controls in hwy design. e p96 ... Apr 22
Wrong Way signs on exit ramps. B p27 ... Apr 29
Signs at entrance ramps warn of traffic conditions. p59 ... May 13
Color coding system successful in Michigan. B p32 ... May 13
Emergency aid for motorists. B p59 ... May 27
Hwy research program contracts total $840,000. p104 ... May 27
Natural beauty has its price. *. p17 ... Jun 3

Road planners fail, hwy ugliness deplored. RC p16 Jun 17
President's hwy beauty campaign may bog down. WO p13 Jun 24

HIGHWAYS
Is another Clay Committee required to solve hwy financial problems? e p76 Jan 7
BPR presents interstate bill. CW p21 Jan 14
Who pays the increased cost of Interstate net? WO p25 Jan 21
HRB streamlines for greater activity. p32 Jan 21
Accredited labs. p44 Jan 28
Congress plans to cover Interstate deficit. WO p23 Feb 4
Highway taxation. e p76 Feb 4
Annual review: progress and problems for roads. °. p82 Feb 11
BPR index reveals road costs rise. B p55 Feb 18
Appalachia proposed hwys map. p47 Feb 18
Consultants press Congress on their role in hwy construction. CW p15 Feb 25
Active quarter of Interstate highways. B p25 Mar 4
Benefits mount. B p57 Mar 18
BPR prepares ammunition for battle: who should pay what for roads? p28 Mar 25
State hwy contract awards will reach record; table, p30 Mar 25
Mississippi Valley road officials look to the future. p32 Mar 25
Caution on transportation fantasies. e p228 Apr 6
Road scandals spur new laws. p28 Apr 15
Appalachian roads pose problems. p30 Apr 15
AGC plans highway conference. CW p21 Apr 15
Appalachian route locations to be decided soon. WO p23 Apr 22
Legal controls: penalties for hwy construction offenses. e p96 Apr 22
Controls of materials and methods in hwy construction. e p96 Apr 22
BPR examines proposal for rail transit in highway median. B p32 May 13
Trucks to pay for Interstate cost rise. WO p17 May 20
Appalachia development roads map. p73 May 20
Congress to fight diversion of hwy money for beauty. WO p51 May 27
Interstate annual map: quick pace too slow to meet deadline. p60 May 27
Hwy spending will level off in 1970. p18 Jun 3
How should BPR spur road quality control by states? WO p23 Jun 10
Hwy bid prices and indexes. p66 Jun 17

• American

Alabama
BPR retains engineering funds; regulations violated. p22 Jun 24

Alaska
Needs aid to maintain roads. p25 Apr 29

California
Carol Schumaker appointed senior highway engineer. p98 Jan 28
Landslide dents Los Angeles county hwy fund. p56 Feb 4
Road repairs unit prices. p138 Feb 11
Consultants consoled on hwy design jobs. p26 Apr 22
Consultants on hwys. e p96 Apr 29
Wrong Way signs on freeway exit ramps. B p27 Apr 29
Oil may extend epoxy patch life. °. p54 May 13
Civil engineers must register. B p59 May 27
Group bids for construction contract in South San Francisco. B p59 May 27

D.C.
North Central Freeway in Washington may be built above grade. B p27 Apr 29

Florida
Lee Causeway: oil-well bit used to drill hard rock. °. p30 Mar 11
$300m in bonds asked for roads. p81 Apr 22
$300m road bonds approved. CW p21 Jun 10
New Miami interchange will stack traffic four high. °. p57 Jun 17

Iowa
Considering freeway. B p25 Mar 4

Kentucky
Hwy commissioner moves to stop proselyting of engineers. p51 Mar 18

Louisiana
Roadbuilding to come under congressional inquiry. WO p43 Mar 18
Rep. J. Blatnik investigates state's shoddy practices. °. p58 Apr 8

Massachusetts
Last stretch of Mass Pike opens through Boston. °. p24 Feb 25

Maine
Proposed route discussed with Canada. CW p17 Apr 29

Michigan
Aggregates automatically weighed on the move for Jackson paving job. °. p45 Feb 25
Biggest earth excavation road job, unit prices. p128 Mar 18
Color codes have success. B p32 May 13

Montana
Tax kills bid openings. CW p9 Apr 1

New Jersey
Arts center and amphitheater on Garden State Parkway. B p49 Feb 11
Art center: road to culture. e p210 May 27
Teamwork speeds building of complex interchange in East Orange. °. p40 Jun 10

New Mexico
Interstate highway, unit prices. p110 Jun 17

New York
Feasibility studies of dual hwy and bridge over Long Island Sound. B p32 Jan 14
Freeport Long Island paving job, unit prices. p69 Apr 22
Slipform paver for New York State Dept of Public Works. CW p15 May 6
Lower Manhattan Expressway approved after 38 yrs. map. p19 Jun 3

Ohio
Electric wheels move earth for highways near Perrysburg. °°. p40 Jan 21

Pennsylvania
Scranton proposes network of tollroads and bridges. B p32 Jan 14
Scranton to double roadbuilding pace to eliminate bottlenecks. CW p23 Jan 21
Hwy Dept investigates stockroom skeletons. CW p37 Feb 11
Scranton proposes $10-billion, 10-year program. B p55 Feb 18
Hwy Dept. goes CPM. B p25 Mar 4
Hwy Dept. studies future needs. B p32 May 13

Rhode Island
Consultants studying feasibility of bridge between L.I. and R.I. B p32 Jan 14

South Dakota
Highway bids top estimate. p129 Jan 28
Ten bid for structures on South Dakota highway, unit prices. p55 Jun 3

Tennessee
River fill will carry Interstate-24 near Chattanooga. °. diag. p26 Mar 4

Virginia
Speed & Briscoe garage operator finances own interchange on I-95. WO p17 Mar 11
Udal proposes historic and scenic sites parkway. CW p21 Apr 22

Washington
Delay not, pay later. CW p15 Feb 25
Emergency aid for motorists. B p59 May 27

Wisconsin
Highway resurfaced with 3-in. overlay of asphaltic concrete and welded wire. °°. p36 Jan 21

• Foreign
African nations consider Sahara hwy program. p32 Jan 14
Montreal super-highway to Sherbrooke ski area. B p33 Jan 21
Swiss crack bottleneck with new Lucerne Road. °°. p84 Jan 28
India builds roads in Himalayas. °. p101 Apr 8
Paraguay on the highroad: new era. e p228 Apr 8
Japan's road program links up. °. map. p48 Apr 15
Canadian-Maine 170 mile hwy considered. CW p17 Apr 29
Nigeria borrows for hwys. p53 May 13
South America: Marginal Forest Hwy will run 3500 miles along the Andes, map. p56 and e p84 May 27 Jun 3
Iran's road system develops. °. map. p78 May 27
Somalia, Mauritania, borrow for paved roads. p84 May 27
Jamaica road program gets World Bank help. p89 May 27
Pakistan plans 1,200 mile road system. B p23 Jun 3
Indonesia plans 1,500-mile highway. B p23 Jun 3
Canada: Montreal will have 100 miles of expressways by 1970. CW p21 Jun 10

HOISTS, see: PRODUCTS & EQUIPMENT, • Cranes, Hoists

HOMES, see: BUILDINGS; HOUSING

HOTELS, see: BUILDINGS

HOUSING, see also: BUILDINGS, • Apartments, • Homes; CITIES
Design contests would improve public housing. RC p12 Jan 28
Market analyses. CW p21 Feb 4
Phila housing rehabilitation program nears test. p56 Feb 4
Soviet housing construction drops to lowest in six years. p155 Feb 11
Large co-op project in the Bronx will house 15,500 families, map. p52 Feb 18
Low cost tropical housing in Jamaica. °. p86 Feb 18
Housing demand expected to rise, according to McGraw-Hill economist. p25 Feb 25
Handy compendium. B p25 Mar 4
Busy Congress gets Housing Bill; Weaver on Great Society on a limited budget. °. p19 Mar 11
FHA, VA loan foreclosures may rise. p69 Mar 11
Homebuilding to go up in 1965. p49 Mar 18
NAHB approves rent subsidies provided . . . WO p25 Mar 25
Hearings start on new Dept of Housing and Urban Development. WO p11 Apr 1
Fair housing order likely to be amended. WO p11 Apr 1
Drive is on to pass school aid and housing bills. WO p11 Apr 1
Council on Housing & Urban Development is a new lobby group. p19 Apr 1
Slow start of housing season. WO p23 Apr 22
California's fair housing test this summer. CW p21 Apr 21
Struggle over housing develops in Congress. p83 Apr 22
Dormant Pennsylvania Housing Agency waking up. p80 Apr 29
Housing bill provisions reach near-final shape. WO p23 May 13
Housing Cabinet post to be filled soon. WO p23 May 13
Omnibus housing bill stalled until June. WO p17 May 20
Decline in delinquency mortgage. CW p15 May 20
Rise in one-family housing starts. CW p15 May 20
Housing bill to bypass lumber standard issue. WO p51 May 27
British housing in financial difficulties. CW p49 May 27
Housing bills taking shape. p185 May 27
Rent-aid objectors will enliven housing bill debate. WO p23 Jun 10
Housing scarcity in South Africa due to labor shortage. B p34 Jun 10
Housing assured cabinet status. p79 and e p96 Jun 24

HURRICANES, see: WEATHER

HYDROELECTRIC POWER, see: DAMS; POWER; RIVERS

I

ICE, see: SOIL; WEATHER

INCINERATORS, see: BUILDINGS; HEALTH

INDUSTRIAL PARKS, PLANTS, SITES, see: BUILDINGS; CITIES

INDUSTRIAL WASTES, see: WATER POLLUTION

INSULATION, see: PRODUCTS & EQUIPMENT, • Adhesives, Insulation

INSURANCE
Indemnification and save harmless issues in NYState contractors' monopoly suit. p153 Jan 28
Calif's wrap up insurance bill. CW p41 Mar 18
Fight brews over Calif insurance. p68 Mar 25
Wrap up insurance fight carried into Calif legislature. p207 Apr 8
Law's hold-harmless clause attacked by NYState contractors. p206 Apr 8
Hearings open on bills barring package insurance in California. p69 May 6
Bill barring wrap-up insurance in California may die. p66 Jun 3

IRRIGATION
Mexico, Thailand, Turkey get loans for irrigation. p36 Jan 7
Red China, red canals. B p55 Feb 18
Peru builds tunnel through the Andes to tap Amazon for irrigation. p154 Mar 18
BuRec to build $157m irrigation for Westlands District, Calif. p28 Apr 22
Garrison irrigation job approved. p30 Apr 22
Navajo Project, New Mexico: tunneling mole bores through sandstone. °. p23 Apr 29
Another mole for second tunnel on San Juan-Chama project. p23 May 20
Irrigation and hydro costs and indexes. p82 Jun 17
East Pakistan project. °. map. p150 Jun 17

J

JOINTS, see: BEAMS, FRAMES, PRODUCTS & EQUIPMENT, • Fasteners

L

LABOR
British labor and management develop new incomes policy. p62 Jan 7
Congress may give labor what it wants. p70 Jan 21
Congress won't rush into Taft-Hartley hearings. WO p41 Jan 28
Section 14(b) of Taft Hartley: why all the fuss? p159 Jan 28
Surplus of jobs. CW p21 Feb 4
U.S. Labor Dept may reorganize. p62 Feb 4
Calif construction groups seek mutual aid. p156 Feb 11
Canadian study shows waste in construction man-hours. CW p43 Feb 18
Griffin on 14(b) Taft-Hartley repeal: "attach strings". p164 Feb 18
Miami peace pact may not reach very far. p71 Mar 11
Industry's promotion funds: unions against management. p309 Mar 18
Shortage of workers and unemployment. CW p23 Mar 25
Ohio groups set up labor-management joint program. p77 Mar 25
Key labor bills may hang over until next session of Congress. WO p49 Apr 8
Labor peace pledged for San Fran transit job. p58 Apr 8
Wyoming right to work law survives union attack. p84 Apr 22
Legislative showdown expected in Congress. CW p17 Apr 29
Construction industry promotion bill approved by House committee. p70 May 6
Repeal of 14(b) uncertain. CW p15 May 6
Major legislative goals. °. p89 May 13
Antibias coordinators in employment and apprenticeship named. p93 May 13
The President and 14(b). e p88 May 20
Manpower changes in Department of Labor. RC p29 May 27
The big push against 14(b) begins. °. p188 May 27
Hearings on 14(b) leave a lot unsaid. p70 Jun 3
Repeal of 14(b) means a closed shop. p78 Jun 10
Drive to repeal Taft Hartley 14(b) hits a snag. WO p53 Jun 17

(Continued)

(Continued)
Supreme Court extends antitrust laws to bargaining. p327 Jun 17
A study in contrast: union and Negro views on union shop. e p342 Jun 17
Labor bills to be voted on. WO p13 Jun 24

•Apprenticeship, see: EDUCATION & APPRENTICESHIP

•Boycotts, Pickets, Strikes
Strike halts NASA jobs at Cape Kennedy. p62 Feb 4
Who is unfair to whom in situs picketing? p164 Feb 18
Even unions can be unfair about employment. CW p15 Feb 25
Situs picketing moves closer to reality. p65 Mar 4
Danger of situs picketing bill. CW p41 Mar 18
Is situs picketing fair? e p328 Mar 18
Concrete work faces stoppage in Detroit. p73 Mar 25
NLRB rules picket line clause is void. p76 Mar 25
San Fran rapid transit. CW p9 Apr 1
Congress gets new situs picketing bills. p51 Apr 1
Labor cited for contempt in Cape Kennedy strikes. p51 Apr 1
High Court strengthens right to lockout. p213 Apr 8
Cleveland dispute over use of Romex electric wire. CW p21 Apr 22
Contractors can't negotiate a boycott, NLRB rules. p74 May 20
Employers unite against situs picketing bill. p81 Jun 10
Self employed contractors vulnerable: situs picketing bill issue. p81 Jun 10

•Civil rights, see ETHICS

•Hiring; Wages; Contracts & Bargaining
Union hiring halls under fire. p72 Jan 14
New attack on union hiring halls. *. p25 Feb 4
Detroit wage boosts. RC p12 Feb 4
New England wage rates too high on federal projects. CW p21 Feb 4
No wage price controls. RC p32 Feb 11
Congress may continue multiemployer bargaining probe. p53 Feb 18
N.J. University job: new complaint ties bias to hiring halls. p163 Feb 18
Union wages now average $4.28, table. p164 Feb 25
New board to review British wage boosts. p71 Feb 25
Something to shoot for. CW p15 Mar 4
Big wage increases for 1965? p310 Mar 18
Electricians develop a seniority plan. p75 Mar 25
Britain clamps down on big wage increases. p84 Apr 22
Appeals board upsets Davis-Bacon ruling in Stanford atom smasher job. p82 Apr 29
Pattern bargaining misfires. p74 May 20
Supreme Court decision may trigger lawsuits. p327 Jun 17
Big wage boost is not inflationary? p328 Jun 17
Non union rates as prevailing wages on two Federal Housing projects. CW p11 Jun 24

•Jurisdictional disputes; NLRB
Overhaul for jurisdictional dispute machinery. WO p23 Feb 4
New deal for revitalizing NLRB. *. p41 Feb 11
NLRB weakens union bans on hiring nonunion subs. p158 Feb 11
NLRB eases curb on contracting out. *. p19 Feb 25
NLRB explains subcontracting rule. p75 Mar 25
NLRB approves preferential referrals for local men. p76 Mar 25
NLRB rules picket line clause is boid. p76 Mar 25
NLRB – an achievement, a challenge. e p68 Apr 1
New joint board gets off to good start. p214 Apr 8
NLRB has left no legacy from its whirl with jurisdictional disputes. p214 Apr 8
Lathers lose suit. NLRB gets injunction in precast concrete dispute. p216 Apr 8
NLRB rules: self-enforcing subcontractor clauses cannot be written into labor agreements. p74 May 20
NLRB curbs union chicanery. p70 Jun 3
NLRB warns on closed shop. CW p21 Jun 10

•Unemployment; Welfare; Overtime & Hours
Electricians develop a seniority plan. p75 Mar 25
7-hour day for Calif electricians. p193 May 27
AFL-CIO pressure for reduction in workweek remains spotty. CW p13 Jun 3

•Unions
NLRB weakens union bans on hiring nonunion subs. p158 Feb 11
Merger proposals threaten AFL-CIO harmony. WO p45 Feb 18
NLRB rebukes Meany on bias. p66 Mar 4
Miami peace pact may not reach very far. p71 Mar 11
Unions have established trend of ignoring law. p312 Mar 18
Electrical workers help taxi men to unionize. CW p9 Apr 1
District 50 – a union on the move. *; second constitutional convention. p90 Apr 15
Wyoming's right-to-work law survives union attack. p84 Apr 22
Trouble over "make work" union restrictions. p70 May 6
AFL-CIO's hard work on Capitol Hill is paying off. *. p89 May 13
NLRB curbs union chicanery. p70 Jun 3
NLRB rules against unions, puts a crimp in hiring. p55 Jun 17

LADDERS, see: PRODUCTS & EQUIPMENT, •Scaffolding and Ladders

LAKES
Fishways along shore of Lake Superior. B p49 Feb 11
U.S. and Canada ask study of Great Lakes pollution. p55 Feb 18
Lake Erie pollution is very serious, map. p55 Apr 8
Federal aid sought for Great Lakes pollution control. p24 May 20
Loch Lomond, Scotland, to be dammed. * p83 May 27
Regulation of Great Lakes' levels asked. p23 Jun 3
Drought in Great Lakes watershed caused decrease in power generation. B p34 Jun 10
Lake Erie cleanup. p20 Jun 24

LAND CLEARING, LANDSCAPING, see: HIGHWAY DESIGN; SOIL

LAND DEVELOPMENT, see: CITIES (General)

LANDSLIDES, see: ACCIDENTS, DISASTERS; see also: SOIL

LASER, see RESEARCH & TESTS

LEASE PURCHASE, see: BUILDINGS, •Federal

LEGAL DECISIONS (Werbin)
Court denies lien for work on a fence. Pa. p119 Jan 28
Some contracts may be rescinded only in part. N.Y. p119 Jan 28
Court explains notice of lien. Ohio. p122 Jan 28
Prime contract did not bind the sub. p127 Feb 18
Right to a lien may be barred. Ohio. p127 Feb 18
Court denies lien for swimming pool. Md. p132 Feb 18
Various rules are used in construing contracts. N.Y. p132 Feb 18
Who's entitled to money due contractor? N.Y. p212 Mar 18
Courts use various rules in construing contracts. N.J. p216 Mar 18
Special facts controlled timely filing of lien. Md. p220 Mar 18
Lien laws control. Suffolk County, N.Y., p226 Mar 18
An empty lien may be invalid. N.Y. p154 Apr 8
Curb on employment approved. N.Y. p154 Apr 8
Court protects lienor's rights. N.Y. p158 Apr 8
Reformation of lien denied. Conn. p53 Jun 3
Lien notice by mail was valid. Ohio. p53 Jun 3
No warranty on new dwellings. Ill. p275 Jun 17
Contract prevails; Custom has legal effect only in certain areas. Ohio. p276 Jun 17
Contractor was protected by an indemnity clause. Ill. p278 Jun 17
Some contracts have strings attached. Omaha. p278 Jun 17
Contractor lost right to resist arbitration. N.Y. p281 Jun 17

LEGAL DEVELOPMENTS, see also: LEGISLATION AND FINANCE
New Orleans court clears AGC chapter in antitrust charge. CW p13 Jan 7
Federal land acquisition policy is a hodgepodge. WO p23 Jan 14
Philadelphia's court upholds city's bid-shop twist. p28 Jan 14
San Fran ceiling installers charged with antitrust violations. p32 Jan 14
NYState charges bidding boycott by subs. p69 Jan 14
Contractor liable for garage collapse. p31 Jan 21
Charges on counterfeit lumber grade stamps. RC p20 Jan 28
Major claims are dropped in garage collapse suit. p49 Jan 28
NYState contractors bidding boycott and monopoly suit. p153 and e p172 Jan 28
Los Angeles landslide dents hwy fund; 8 yrs of litigation climaxed. p56 Feb 4
NYState contractors deny bid boycott monopoly. p42 Feb 11
Peter Kiewit Sons' Co. loses claim for $5m on dam contract. p63 Mar 4
Law's hold harmless clause attacked by NYState contractors. p206 Apr 8
Tennessee court denies design preference, Modjeski & Masters case. p30 Apr 15
Federal court at Portland, Me. finds contractor innocent of bid rigging charge. p69 May 6
Suit against contractors fails in Westchester. p94 May 13
Prime contractor Malan ordered to pay sub $1m on O'Hare Airport job. p185 May 27
San Francisco price rigging charged. CW p51 Jun 17
Chicago probes V. W. Bacon, sewerage head. *. p17 Jun 24

LEGISLATION & FINANCE (STATE & LOCAL), see also: CONSTRUCTION BUSINESS, •Financing
Massachusetts law on architects and engineers. p46 and e p180 Feb 11 Feb 18
California sells $100m bonds for water projects. p69 Feb 25
Idaho's new law to jog slow payers on public works. p69 Mar 11
California wraps-up insurance bill. CW p41 Mar 18
Idaho creates state water resources board. p29 Mar 25
Calif insurance fight brews. p68 Mar 25
Calif vote set on $850m water bond proposal. p73 Mar 25
Idaho passes six year statute of limitations law and contractor licensing law. p53 Apr 1
Calif legislature may have to deal with wrap-up insurance fight. p207 Apr 8
Illinois contractor license law asked. p81 Apr 22
Florida governor asks legislature to vote $300m bonds for roads. p81 Apr 22
Calif hearings on bills barring package insurance. p69 May 6
Gov. R. E. Smylie on Idaho's water legislation. RC p14 May 13
New York: both houses of state legislature approve $1.7 billion war on pollution. p31 May 13
Calif bill barring wrap up insurance may die. p66 Jun 3
San Mateo County, Calif. against AEC on ugly high voltage transmission lines. p28 Jun 10
Pennsylvania legislature to vote on mass transit aid. CW p11 Jun 24

LIGHTING, see: PRODUCTS AND EQUIPMENT

LOCKS, see also: DAMS; RIVERS
New dams and lock make Arkansas River navigable. **, diag. p38 Mar 25
Crash repairs of Ice Harbor Lock on Snake River. CW p9 Apr 1
Ice Harbor Lock repairs. **, diags. p26 May 6
Suggestion box idea saves $3.2 million on Little Goose Lock on Snake River. *, diags. p94 May 27
Belgium builds locks to keep shipping on the move. **, p34 Jun 24

LUMBER
Standards wrangle, frauds require new investigation. WO p15 Jan 7
Lighter lumber still in limbo. CW p23 Jan 21
Plastic-impregnated wood may enter construction. WO p25 Jan 21
Charges on counterfeit lumber grade stamps. RC p20 Jan 28
New committee to tackel standards rewrite. p47 Mar 18
Homebuilders warned on floor plywood thickness. B p57 Mar 18
A lumber grade expected. CW p23 Mar 25
Mismarked and substandard invades New York City market. CW p21 Apr 15
Division remains on lumber standards committee. WO p19 Apr 29
Official but nonstandard lumber size. WO p23 May 13
Pressure is on for lumber standard, Dept of Commerce wants action. *. p28 May 13
Housing bill to bypass lumber standard issue. WO p51 May 27
New dimensions offered, table. p30 Jun 10

M

MANAGEMENT, see also: SPECIFICATIONS & STANDARDS
Canadian study shows waste in construction man-hours. CW p43 Feb 18
Pa. Hwy Dept. goes CPM. B p25 Mar 4
Contractor-managers learn to manage: Carolina's ambitious program. *. p45 Mar 18
Don't fight computers, join them – experts warn engineers and architects. p53 Mar 18
Pursuit of excellence: contractors and education. e p88 Mar 25
New computer program and new report form improve CPM scheduling. p20 Apr 1
Value engineering saves, pays on some jobs. p52 Apr 8
Cost estimating: management ties it in at the top, diags. p63 Apr 8
Computer program speeds lock's cracked concrete repairs. *, diags. p26 May 6
Shift from arrow to precedence diagrams for CPM, diags. p32 May 6
Business management confused on equal employment opportunities. e p84 May 6
Franklin Institute to develop information retrieval center. B p25 May 6
Britain will switch to metric system. CW p49 May 27
Shift to metric system no shock to Britons. p18 Jun 3
Technical Services Act would set up local information centers. p20 Jun 3
Society of CPM consultants formed. B p34 Jun 10

MAPPING, see: SURVEYING AND MAPPING

MARINAS, see: PORTS AND HARBORS

MASONRY, see PRODUCTS & EQUIPMENT, •Walls, Masonry

MATERIALS, see: PRODUCTS & EQUIPMENT, see also: CONSTRUCTION BUSINESS, •Materials; CONCRETE; STEEL etc.

MEETINGS
NCA elects Sheets as president. *. p50 Jan 28
National Bituminous Contractors Asso meets in Miami, seeks larger market. p43 Feb 11
Third World Conference of International Asso for Earthquake Engineers meets in New Zealand. p43 Feb 11
National Concrete Contractors Asso meets in Miami, name changed to Am Soc of Concrete Constructors. p45 Feb 11
AED's annual convention in Chicago predicts sales rise in 1965. p46 Feb 11
Management-Labor meeting in Palm Springs discusses state's problems. p165 Feb 11
Bureau of Public Roads conference will deal with research and development. B p55 Feb 18
AASHO meets in Washington D.C., endorses beauty. *. p20 Feb 25
Architects-Engineers Liaison Commission formed. p23 Feb 25
Canadian Construction Asso's 47th annual meeting endorses general contract system. e p84 Feb 25
Pittsburgh meeting: will performance specs work? p21 Mar 4
Road Builders meet in Washington D.C., ponder hwy taxes. p22 Mar 4
Chicago conference on Calumet- Lower Lake Michigan Basin pollution. *. p23 Mar 11
Am Concrete Institute 61st annual meeting in San Francisco. p25 Mar 11
Value Engineering meetings planned. WO p43 Mar 18
Lehigh Univ conferences on steel frame plastic design. *. p47 Mar 18
Detroit meeting on Industrial, Institutional and Commercial Bldg. p53 Mar 18
ASCE's Water resources Conferegce in Mobile. p57 Mar 18
AGC convention in San Francisco: subcontractor listing plan approved. *. p27 Mar 25
Mississippi Valley Conference of State Hwy Depts' 56th annual meeting in Chicago. p32 Mar 25
BPR's research and development confers on quality control and statistics. p28 Apr 15
AGC plans highway conference. CW p21 Apr 15
Second constitutional convention of District 50 – a union on the move. *. p90 Apr 15
Symposium on earthquake design in Washington D.C. p22 May 6
Bldg Research Institute semiannual conference discusses effect of architecture on human behavior. p23 May 6
Am Soc for Testing & Materials on Water Quality Control, Philadelphia. p22 May 20
ASCE discusses transportation in Minneapolis; Hedley nominated for president. *. p53 May 27

Consulting Engineers Council meets in St. Louis. °. p54 May 27
International Road Federation meets in Lima, discusses Marginal Forest Hwy along the Andes. map. p56 May 27
Engineers and Architects Council of Oregon meets on 45th anniversary. °. p136 May 27
Orientation meeting for contractors interested in Bay Area transit job. p184 May 27
White House Conference on beautiful America. °. p17 Jun 3
National Brick and Tile Bearing Wall Conference in Pittsburgh. p21 Jun 3
Construction Specifications Institute installs H. B. Baume as president at Denver meeting. °. p52 Jun 3
International Federation of Consulting Engineers meets in Helsingor, Denmark. p31 Jun 10
ASCE's St. Louis conference on quality control and inspection. p18 Jun 24
Am. Inst of Architects and Pan American Conference of Architects meet in Washington. p19 Jun 24
Health, Education & Welfare Dept discusses pollution at Detroit meeting. p20 Jun 24
Apprenticeship conference in Atlantic City, N.J. p80 Jun 24

METRIC SYSTEM, see: MANAGEMENT; SPECIFICATIONS & STANDARDS

MINING, see: SOIL, • Earthmoving, Excavation

MISSILES, see: SPACE & MISSILES

MODELS, see: SPECIFICATIONS & STANDARDS

MODULES, see: SPECIFICATIONS & STANDARDS see also: RESEARCH & TESTS; BUILDING DESIGN

MONORAILS, see: RAILROADS; TRANSPORTATION

MONUMENTS, see: BUILDINGS, • Culture, Monuments

MORTGAGES, see: HOUSING

MOVING, see: TRANSPORTATION see: PRODUCTS & EQUIPMENT, • Materials handling

N

NASA see: SPACE

NATIONAL Associations, Societies etc. – see subject

NAVY, NAVIGATION
Submarine test range in Bahamas. °. p53 Apr 8
Survey ships probe tunnel route in English Channel. °°. diag. p98 Apr 8
Seabees in Vietnam. p27 May 13
Belgium builds locks to keep shipping on the move. °°. p34 Jun 24

NOISE CONTROL see: ACOUSTICS

NUCLEAR PHYSICS, see: ATOMIC ENERGY

O

OFFICES, see: BUILDINGS

OVERPASSES, see: BRIDGES

P

PAINT, see: PRODUCTS & EQUIPMENT, • Adhesives, Coatings, Paint

PARKING, see: BUILDINGS, • Garages; CITIES; PAVING; TRAFFIC

PAVING, see also: CONCRETE; HIGHWAYS; PRODUCTS & EQUIPMENT
Non skid runway for Liverpool airport, England. p53 Jan 14
Symposium on slip form paving. p32 Jan 21
Steel reinforces asphalt overlay. °°. p36 Jan 21
Research precedes field tests in foamed-plastic pavement. RC p12 Jan 28
Asphalt finisher is bigger and better. °. p90 Jan 28
Asphalt Pavers meet in Miami, seek a larger market. p43 and p136 Feb 11
Parallel jet runway for Atlanta airport. °°. p58 Feb 18
Asphalt makes a Mexican runway. °. p147 Mar 18
Air Force tests coal tar pavement. °. p51 Mar 25
Overlay is sand-asbestos-asphalt for Lincoln Tunnel, New York City. °. p119 Apr 8
Synthetics encase heating system in Austria. °°. p50 Apr 15
Hawaii road paving unit prices. p55 Apr. 29
Slipform paver for New York State's Dept of Public Works. CW p15 May 6
Bias against asphalt seen in Appalachian act. WO p23 May 13
Oil may extend epoxy patch life. °. p54 May 13
Careful with color paving. B p59 May 27
Vienna airport runways paved at night. °. p89 May 27
Huge tank on wheels stores asphalt. °. p57 Jun 10
Expansive cement aggregate reaction destroys Ohio bridge deck. °°. p163 Jun 17

PHOTOGRAPHY, PHOTOGRAMMETRY
Directory of photogrammetry companies. p23 Feb 25
Photographs of the moon. °. p107 Apr 8
Infrared photographs show Hawaii water leakage. p108 Apr 8
Improvement in photogrammetry: airborne laser maps terrain. °. p57 Apr 15

PIERS, see: BRIDGES; CAISSONS; PORTS

PILES, see also: PRODUCTS & EQUIPMENT; SOIL
Raymond hydraulic piledriver failed at San Francisco. B p31 Feb 4
Batter piles brace sheeting around San Fran bldg excavation. °°. p26 Mar 11
Oil well bit drills hard rock for Lee Causeway precast piles, Fla. °°. p30 Mar 11
Michigan pile test program results. °. tables. p26 and e p88 May 20

PIPES, see also: PRODUCTS & EQUIPMENT
Gas Council of Great Britain and Gas Export Agency to study gas pipeline. B p32 Jan 14
Soviet Union signs agreement with Czechoslovakia. B p32 Jan 14
Storm drains that leak all over. °°. p68 Jan 28
From pipe to plane. B p55 Feb 18
Ice is a platform for pipeline lowering, Lake Champlain. °. diag. p90 Feb 18
Sewer pipe rides into place on an underwater track in New Hampshire. °°. p26 Feb 25
Large prestressed concrete pipes to carry Susquehanna water to Baltimore. °°. map. p30 Mar 4
Chemicals seal leaks. p45 Mar 11
Plastic molds line South African concrete pipe. p147 Mar 18
Steel capsule moved through oil pipeline in Canada. p29 Apr 22
Gas for Teheran. B p25 May 6
Pipe against railroad for coal transportation. p31 May 13
Pipelines discussed at ASCE transportation meeting. p54 May 27
Federal Power Commission authorizes $165.4 million worth of pipeline facilities. B p23 Jun 3
Floating pipe pushed by motor boat, Penna sewer. °°. p57 Jun 10
San Francisco pipe price rigging charged. CW p51 Jun 17
Texas water pipeline, unit prices. p110 Jun 17
Spanish pipeliners race against Madrid water shortage. p40 Jun 24

PLANNING, see: CITIES

PLASTICS, see: PRODUCTS & EQUIPMENT, • Plastics

PLYWOOD, see: LUMBER

PORTS AND HARBORS

• American
Oakland, Calif., and Sea-Land Service plan improvement. B p55 Feb 18
Cities along the Arkansas build ports. p42 Mar 25
New York harbor model at Vicksburg Experimental Station. °. p70 Apr 8
Precast concrete makes a fishing pier in Venice, Calif. °°. diag. p81 Apr 8
Corps, Rivers and Harbors Board recommends $250m jobs. p25 May 6
Delaware River Port Authority must build or perish. B p25 May 6
Philadelphia port improvements. CW p21 May 13
Miami's new seaport sits on bayfill. °. p23 May 20
Baltimore inner harbor redevelopment to begin. p325 Jun 17

• Foreign
Japan will improve ports in $1.5 billion program. p83 May 27
Hong Kong's new pier is also shopping center. °. p146 Jun 17

POWER, see also: ATOMIC ENERGY; DAMS; RIVERS; UTILITIES

• American
Duke Power Co, North Carolina, wants to harness several streams. p129 Jan 14
Third Grand Coulee powerhouse urged. °. diag. p30 Jan 21
Conemaugh generating station will be twin to Pa's Keystone plant. p27 Feb 4
Study reveals hydro potential. B p55 Feb 18
No federal intervention in Con Ed's Hudson River project. p51 Feb 18
Pumped storage generates jobs; table of projects, map. p19 Mar 4
Market studies for Rampart Canyon's 5 million kw. p23 Mar 4
FPC approves biggest pumped storage hydro for Con Ed on Hudson River. p64 Mar 18
New Hampshire gets permit to study Androscoggin River potential. B. p19 Apr 1
South Calif Con Ed calls for bids; WEST power pool ready for construction start. p19 Apr 1
Dickey project on St. John River, Me, will not be part of Passamaquoddy. WO p49 Apr 8
Auburn-Folsom project, Cal, approved. WO p49 Apr 8
U.S. hydro power potential is one fourth-developed. p26 Apr 29
Yankee-Dixie Power Asso's scheme for mine-mouth generating plants. B p27 Apr 29
Hobbs, New Mexico, Cooling tower has plywood stacks. °. p54 May 13
Big pumped storage site studied in Mass. on Connecticut River. p25 May 20
TVA orders largest boiler for steam power plant. p21 Jun 3
AEC's high wire act criticized; San Mateo County wants buried transmission lines. p28 Jun 10
Federal Power Commission releases "Planning Status Reports" appraising hydroelectric licensing. B p34 Jun 10
Coal fire power plant on St. Croix River, Minnesota. B p34 Jun 10
Pumped-storage-steam in power plant near Denver. B p34 Jun 10
Puget Sound utility will replace Lower Baker Powerhouse. p34 Jun 10
Taum Sauk pumped storage; reservoir leakage continues. °. p58 Jun 17
TVA's mine-mouth steam power plant will be world's largest. p59 Jun 17
Power lines and scenic beauty. e p342 Jun 17
San Francisco will use steel cables to anchor penstock on steep slope of Canyon Power Project. p172 Jun 17

• Foreign
International participation in Congo River projects invited. CW p23 Jan 21
Six American contractors can bid Orange River job. p50 Jan 28
New Foundland renames Hamilton Falls for Churchill. B p55 Feb 18
World Bank helps finance Japanese hydro projects. p78 Feb 18
Egypt: steam plant to serve until Aswan is ready. p154 Mar 18
Peru builds tunnel through the Andes for hydro power. p154 Mar 18
Churchill (Hamilton) Falls power for N.Y. may go through Quebec. CW p47 Apr 8
Powerful loans will help Brazil, Chile, Thailand and Japan to add 2m kw. p46 Apr 15
Red power on the Blue Danube. B p32 May 13
Norway's Tokke hydro development: water from one river system feeds another. °°. map. p70 May 27
Iran, Peru, Portugal, Malayasia, get water and power loans. p84 May 27
Turkey to build hydro project near Lake Kodava. B p23 Jun 3
West Pakistan: Quetta steam power plant works in bone dry country. °. p157 Jun 17
Brokopondo hydroelectric project, Surinam River's big gates have aluminum skins. °. p175 Jun 17

POWER PLANTS AND UNITS see: POWER see also: PRODUCTS & EQUIPMENT, • Engines and Power Units

PRICES, see: CONSTRUCTION BUSINESS

PRODUCTS & EQUIPMENT
Equipment sales to rise in 1965. p46 Feb 11
National Asso of Manufacturers against federal pollution control. p48 Feb 11
Baldwin-Lima-Hamilton Corp to be purchased by food and chemical company. CW p47 Apr 8

• Adhesives, Coatings, Insulation, Paint, see also: • Plastics
Selby, Battersby & Co., Philadelphia, Pa.: Trowel-applied, elastomeric roof coating. B p48 Jan 7
Contractors' Chemical & Supply, San Leandro, Calif.: Form coating. B p98 Feb 18
Upjohn, Torrence, Calif.: Foam insulation fits most pipes. °. p45 Mar 4
Chemicals seal pipeline leaks. p45 Mar 11
Sonoco Products, Hartsville, S. C.: Bituminous fiber makes a lined drainage ditch. °. p174 Mar 18
Marblex of Canada, Edmonton, Alberta: Enzymatic products cut costs of soil compaction. p174 Mar 18
Butt joints streamline conveyor. °°. p158 Mar 18
Steel bridges never require painting. °. p51 Mar 25
Ranco Industrial Products, Cleveland, Ohio: Roof sealant. B p66 Apr 15
Speco, Cleveland, Ohio: Aluminum paint. B p66 Apr 15
Allied Chemical, New York, N.Y.: Highway sealer. B p45 May 6
Brothers Chemicals, Brooklyn, N. Y.: Form coating. B p122 May 27
Sinclair-Koppers, Pittsburgh, Pa: Polystyrene pipe insulation. B p50 Jun 3
Epoxy repairs cracked beams in California. p48 Jun 3
General Electric, Sth. Providence, R.I.: Better insulation makes heating cable less bulky. p202 Jun 17
Permaflex Products, Philadelphia, Pa: Epoxy coats asphalt. B p206 Jun 17

• Air conditioning, Heating, Ventilation
Thor Power Tool, Aurora, Ill: Oil-fired heater. B p48 Jan 7
Aerovent Fan, Piqua, Ohio: High-capacity vane-axial fans. B p50 Jun 3
Thorpe Arc-Flame Associates, Concord, N.H.: Portable air-fuel burner for highway maintenance. p200 Jun 17

• Aluminum
Big gates have aluminum skins. °. p175 Jun 17
Aluminum Co. of America, Pittsburgh, Pa.: Black architectural aluminum. B p206 Jun 17

• Bricks, see: • Walls, Masonry

• Cables, Wire, Electrical fittings
H. K. Porter, Somerville, Mass: Ratchet cable cutter. B p48 Jan 7
Permaduc International, Atwater, Minn.: Insulated conduit. °. B p46 Feb 4
Sierra Electric, Gardena, Calif: Weatherproof coverplates. °. B p46 Feb 4
Rods will anchor tower footings for Sandia Peak Tramway in New Mexico. °. diag. p116 Apr 8
Steel cables will anchor penstock on steep slope of Canyon Power Project in San Francisco. p172 Jun 17

• Ceilings and Floors
Laclede Steel, St. Louis, Mo: Top chord bonds slab to joist. °. p107 May 27
Inland Steel, Milwaukee, Wis: Radiant ceiling panel. B p50 Jun 3

(Continued)

(Continued)

● Communications, Radio, TV, Computers, Electronics
Motorola, Chicago, Ill: UHF radio speeds communication. p45 ... Jan 7
Wyle Laboratories, El Segundo, Calif: Desk calculator, *. p46 ... Feb 4
International Business Machines, White Plains, N.Y.: Computer for engineers gives graphic results. p52 ... Mar 25
Technical Guide Publications, Miami, Fla: Friction loss computer. B p50 ... Jun 3

● Compactors, Rollers, Vibrators, Crushers
Hewitt-Robins, Stamford, Conn.: Vibrating screen. B p48 ... Jan 7
International Vibration, Cleveland, Ohio: Self-propelled vibrator can compact 36-in. strip. *. p173 ... Mar 18
Wacker, Hartford, Wis.: One-cylinder diesel engine powers vibrating pan. *. p176 ... Mar 18
Hyster, Peoria, Ill.: Vibratory tamping roller has all-gear drive. p52 ... Mar 25
Midland Products, Midland, N.J.: Vibratory compactor. B p45 ... May 6
Shovel Supply, Dallas, Tex: Three-wheel roller. B p45 ... May 6
Koehring Co., Canton, Ohio: Segmented wheel rollers have two-speed ranges. p62 ... May 13
Master Vibrator, Dayton, Ohio: Big pan-type compactor delivers up to 2,000 vpm. p50 ... May 20
Vibro-Plus Products, Stanhope, N.J.: Self-propelled vibratory roller packs rock fill. p121 ... May 27
Universal Engineering, Cedar Rapids, Iowa: Overhead eccentric jaws designed to make rip rap. p121 ... May 27
Universal Engineering, Cedar Rapids, Iowa: Wide jaw crusher has hydraulic shim adjustment. p202 ... Jun 17
Champion, St. Louis, Mo.: Compactor for clay and granular material. B p206 ... Jun 17

● Compressors
Worthington, Harrison, N.J.: Single-stage and two-stage centrifugal compressors. B p48 ... Jan 7
Davey Compressor, Kent, Ohio: Portable Air compressor. B p46 ... Feb 4
Schramm, West Chester, Pa.: Diesel V-Engines power portable air compressors. p93 ... Feb 18
Atlas Copco, Hackensack, N.J.: Small portable compressor powers medium-sized tools. p93 ... Feb 18
Westinghouse Air Brake, Sidney, Ohio: Compressor runs two breakers. *. p40 ... Mar 4
Davey Compressor, Kent, Ohio: Compressor handles two breakers. *. p46 ... Apr 29
Curtis, St. Louis, Mo: Small air compressor. B p45 ... May 6
Quincy Compressor, Quincy, Ill: Portable air compressor. B p206 ... Jun 17

● Concrete machinery; Cement; Aggregate, see also: **● Paving**
Rex Chainbelt, Milwaukee, Wis.: Pavement breaker tamps backfill below grade. *. p46 ... Jan 21
Rex Chainbelt, Milwaukee, Wis.: Mobile batcher handles up to 60 cu yd per hour. p97 ... Feb 18
Concrete Slump Testing Equipment, Springfield, Ill.: Slump cone base. B p98 ... Feb 18
Clipper Manufacturing, Kansas City, Mo.: Saw train cuts center joint. *. p123 ... Apr 8
Oshkosh Motor Truck, Oshkosh, Wis.: Ready-mix carrier hauls 12 cu yd. *. p60 ... Apr 15
Eagle Iron Works, Des Moines, Iowa: Portable units process aggregates. *. p62 ... Apr 15
Gilson Screen, Mafinta, Ohio: Portable tester for sizing sand aggregates. p64 ... Apr 15
Dodge Car & Truck, Detroit, Mich.: Transit mixer has five axles. *. p40 ... May 6
Omark Industries, Portland, Ore.: Compact concrete saw. B p45 ... May 6
Stow Mfg., Binghamton, N.Y.: Trowling machine. B p68 ... May 13
Koehring, Port Washington, Wis.: Mortar mixer. B p68 ... May 13
Economy Forms Corp, Des Moines, Iowa: Slab forming system. B p68 ... May 13
Ideal Industries, Sycamore, Ill.: Conduit spacer cap. B p122 ... May 27

● Conveyors, see: ● Materials handling

● Cranes, Hoists; Derricks
NASA develops sensor. p45 ... Jan 21
Unit Crane & Shovel, Milwaukee, Wis.: Mobile crane. B p98 ... Feb 18
Harnischfeger, Milwaukee, Wis.: Crane converter. B p98 ... Feb 18
Largest floating derrick used in Duluth, Minn. B p19 ... Apr 1
Seaside-Antioch, Seaside, Calif.: Telescoping crane boom fits rubber-tired tractor. *. p134 ... Apr 8
American Hoist & Derrick, St. Paul, Minn.: Crawler crane. B p66 ... Apr 15
American Hoist & Derrick, St. Paul, Minn.: Guy derrick increases crane's lifting capacity. *. p110 ... May 27
Link-Belt Speeder, Cedar Rapids, Iowa: 100-ton crane. B p122 ... May 27
Tormag Products, Mayville, Wis.: Crane drive attachment. B p122 ... May 27
Baker Equipment Engineering, Richmond, Va.: Truck loading crane. *. B p50 ... Jun 3

● Doors, Windows
Steelcraft, Cincinnati, Ohio: Three-hour fire door. B p50 ... Jun 3

● Dredges, see also: SOIL, ● Dredging

● Drills, Augers
Kent Air Tool, Kent, Ohio: Rock drill. B p48 ... Jan 7
Wheel Trueing Tool, Detroit, Mich.: Drilling machine. B p48 ... Jan 7
Sanderson Cyclone Drill, Orrville, Ohio: Rotary hydraulic spudding permits faster drilling. p47 ... Jan 21
Ingersoll-Rand, Phillipsburg, N.J.: Drill has automatic feed, lubricant injection. p47 ... Jan 21
Schramm, Inc., West Chester, Pa.: Crawler has 600-cfm compressor. *. ... Jan 28
Ingersoll-Rand Co, New York, N.Y.: Hexagonal moil. B p46 ... Feb 4
Albertson & Co., Inc., Sioux City, Iowa: Air drill. B p46 ... Feb 4
Auto Crane, Tulsa, Okla.: Earth auger. *. p98 ... Feb 18
Timkin Roller Bearing, Colorado Springs, Colo.: Rock bit. B p98 ... Feb 18
Oil-well bit used to drill Florida rock. **. p30 ... Mar 11
Custom-built auger works inside. **. p45 ... Mar 11
Electric drill melts way through rock. *. p158 ... Mar 18
Clipper, Kansas City, Mo.: Electric core drill has adjustable speed. *. p64 ... Apr 15
Pennsylvania Tool Works, Wynnewood, Pa.: Compas Cutter. B p66 ... Apr 15
Joy Mfg., Claremont, N.H.: Drill bit. B p66 ... Apr 15
Sanderson Cyclone Drill, Oroville, Ohio: Auger fits on truck or trailer. *. p56 ... Apr 22
E. J. Longyear, Minneapolis, Minn.: Masonry drill. B p51 ... Apr 29
Fastway Fasteners, Lorain, Ohio: Masonry drills. B p68 ... May 13
Eveready Briksaw, Kansas City, Mo.: Core drill. B p122 ... May 27
The Speedwell Took, Cleveland, Ohio: Hammer-drill. B p122 ... May 27
New England Carbide, Peabody, Mass.: Masonry bits. B p50 ... Jun 3
Robert C. Collins, Miami, Fla.: Descaling head. B p50 ... Jun 3
Joy Manufacturing, Claremont, N.H.: Big track drill is as versatile as small rig. *. p196 ... Jun 17

● Electronics, see: Communications, Electronics

● Elevators, see: ● Scaffolding; Elevators

● Engines, Power Units; Fuels; Lubricants
Studebaker, Minneapolis, Minn.: Auxiliary electrical source. *. p46 ... Feb 4
Furnco Engineering Co, Bala-Cynwyd, Pa.: Power buggy. B p46 ... Feb 4
Agritronics, Colorado Springs, Colo.: Mobile alternator. B p99 ... Feb 18
General Electric, Cleveland, Ohio: DC motor. B p184 ... Mar 18
Allis-Chalmers, Milwaukee, Wis.: Turbocharged diesel. B p45 ... May 6
Caterpillar Tractor, Peoria, Ill.: Diesel truck engine. B p45 ... May 6
The Leece-Neville Co., Cleveland, Ohio: Emergency power. B p45 ... May 6
Caterpillar Tractor, Peoria, Ill.: New engine for Caterpillar. *. p107 ... May 27
Largest boiler ordered for TVA's power plant. p21 ... Jun 3
Ready Power, Detroit, Mich.: Packaged prime mover. B p50 ... Jun 3
McCulloch Mite-e-Lite, Wellsville, N.Y.: Lightweight generator. B p50 ... Jun 3
Radioactive isotopes count high head turbine flows. p49 ... Jun 3
Machinery Mountings, Hicksville, N.Y.: Vibration isolators. B p206 ... Jun 17

● Excavators; Hauling & Materials handling, see also: **● Trucks; SOIL, ● Excavating**
American Poclain, Rahway, N.J.: Excavator attachments. B p48 ... Jan 7
Stephens-Adamson, Aurora, Ill.: Mobile stockpiler throws 65 ft at 5 tons a minute. p47 ... Jan 21
Tulsa Products, Tulsa, Okla.: Hydraulic winch. p46 ... Feb 4
Insley, Indianapolis, Ind.: Backhoe swings on ball bearings. *. p96 ... Feb 18
Beebe Bros, Seattle, Wash.: Electric winches. B p98 ... Feb 18
Hydraulic Machinery, Butler, Wis.: Hydraulic backhoe works fast. *. p45 ... Mar 4
Balmar Tractor, Baltimore, Md.: Front end loader has planetary steering system. p168 ... Mar 18
Harnischfeger, Milwaukee, Wis.: Hydraulic clamshell blends shovel-backhoe qualities. *. p180 ... Mar 18
Erickson, Minneapolis, Minn.: Hydraulic loader. B p184 ... Mar 18
Conveyor system cheaper than road repairs for Red Rock Dam spillway aggregate hauling. **. p125 ... Apr 1
Deere & Co., Moline, Ill.: Hydraulic backhoe fits rubber-tired loader. p128 ... Apr 8
Balmar Tractor, Baltimore, Md.: Front end loader has planetary steering system. p128 ... Apr 8
Harnischfeger, Milwaukee, Wis.: Hydraulic backhoe has capacity of 5.8 cu yd. p128 ... Apr 8
Allis-Chalmers, Milwaukee, Wis.: Articulated loader. *. p129 ... Apr 8
Koenig Iron Works, Houston, Tex.: Three-way body dumps to rear or either side. p126 ... Apr 8
Clark Equipment, Battle Creek, Mich.: Backhoe-loader operates easily. *. p62 ... Apr 15
Barber-Greene, Aurora, Ill: Ditching wheel shifts sideways. *. p54 ... Apr 22
Broyt, Rockford, Ill.: Excavator has no-wheel drive. *. p54 ... Apr 22
General Motors, Hudson, Ohio: Euclid upgrades three articulated loaders. p55 ... Apr 22
Allis-Chalmers, Milwaukee, Wis.: Wheel tractor carries hydraulic backhoe, loader. p55 ... Apr 22
LeTourneau-Westinghouse, Peoria, Ill.: Elevating scraper holds 51 cu yd. *. p46 ... Apr 29
Bucyrus Blades, Bucyrus, Ohio: Stronger loader buckets. B p45 ... May 6
Koehring, Newtown, Iowa: Backhoe attachments. B p45 ... May 6
Caterpillar's bottom dump rig hauls 240 tons of coal. *. p31 ... May 13
Drott, Milwaukee, Wis.: Four wheels drive loader. *. p61 ... May 13
International Harvester, Chicago, Ill.: Backhoe attachment has dual hydraulic circuits. p67 ... May 13
Wainroy Corp, Fitchburg, Mass.: Self-leveling loader. B p68 ... May 13
Thew-Lorain Co., Lorain, Ohio: Hydraulic backhoe fits Lorain front loaders. p50 ... May 20
Massey-Ferguson, Detroit, Mich.: Loader has improved design. *. p116 ... May 27
Vermeer Manufacturing, Pella, Iowa. *. p122 ... May 27
Orendorff, Los Angeles, Calif.: Scarifier aids scraper. *. B p50 ... Jun 3
Allis-Chalmers, Milwaukee, Wis.: Elevating scraper loads material quickly. *. p184 ... Jun 17
Mitsubishi Heavy-Industries, Tokyo: Japan is marketing mechanical tunneling machine. *. diag. p189 ... Jun 17
Vermeer Manufacturing, Pella, Iowa: Trencher's variable drive allows high-speed digging. p190 ... Jun 17
Koehring, Newton, Iowa: Persons loader-backhoes come in three varieties. *. p200 ... Jun 17
Pettibone Mulliken, Muddelein, Ill.: Big backhoe-loader is operated hydraulically. p202 ... Jun 17

● Explosives
Austin Powder, Cleveland, Ohio: Fuse delays simplify blasting. p48 ... Feb 25

● Fasteners, Connectors, Hangers
Stanley Air Tools, Willowick, Ohio: Angled nutsetter. B p48 ... Jan 7

● Fire protection, see: ● Safety

● Graders
Caterpillar Tractor, Peoria, Ill.: Blade stabilizer reduces motor bounce. *. p166 ... Mar 18
Cleveland Equipment, Garden City, Mich.: Canadian motor graders reach U.S. market. p168 ... Mar 18

● Hauling, see: ● Excavators; Hauling & Materials handling see also: **● Trucks**

● Instruments and Tools; Office equipment
Diamond Tool, Hawthorne, Calif.: Concrete saw. B p48 ... Jan 7
P. K. Lindsay, Everett, Mass.: Portable sandblast. B p48 ... Jan 7
Paterson Engineering, London, England: British slide rule estimates water flows. p48 ... Jan 21
Thomas Industries, Louisville, Ky.: Chain saw. *. B p46 ... Feb 4
E. J. Longyear, Minneapolis, Minn.: Diamond saw blades. B p46 ... Feb 4
Tellurometer, Inc., Washington, D. C.: Air gap simplifies nuclear tests. *. p96 ... Feb 18
Wheel Trueing Tool Co, Detroit, Mich.: Concrete saw. B p98 ... Feb 18
Midland Products, Midland Park, N. J.: Bar bender. B p98 ... Feb 18
Pro-Tech, Springfield, Pa.: Dissolved oxygen meter. B p98 ... Feb 18
Reproduction Engineering, Essex, Conn.: Semi-automatic printer. B p98 ... Feb 18
Black & Decker, Towson, Md.: Rotary hammer. B p184 ... Mar 18
Rockwell, Pittsburgh, Pa.: Band saw stand. B p184 ... Mar 18
Homelite, Port Chester, N.Y.: Chain saws. B p184 ... Mar 18
Chart-Pak, Leeds, Mass.: Dry transfer lettering speeds chart drafting. p52 ... Mar 25
Stanley Air Tools, New Britain, Conn.: Air-powered grinder. B p66 ... Apr 15
Erie Strayer, Erie, Pa.: Concrete bucket. B p51 ... Apr 29
General Electric, Providence, Rhode Island: Speed control. B p51 ... Apr 29
Eugene Dietzgen, Chicago, Ill.: Engineer's field books. B p51 ... Apr 29
Scientific Instruments, Berkeley, Calif.: Single-cursor slide rule. B p51 ... Apr 29
Engler Instrument, Jersey City, N.J.: Device records trailer mileage. *. p61 ... May 13
Union Carbide, New York, N.Y.: Cutting torch. B p68 ... May 13
Seaman-Nuclear, Milwaukee, Wisc.: Laser beam instrument subs for leve, transit. p121 ... May 27
Fischer & Porter, Warminster, Pa.: Ipstrument shelters. B p50 ... Jun 3
Skil, Chicago, Ill.: Hammer-drill. B p50 ... Jun 3
Kent Air Tool, Kent, Ohio: Chipping hammer. B p50 ... Jun 3
Champion, St. Louis, Mo.: Saw table. B p206 ... Jun 17

● Lighting
Strong Electric Corp, Toledo, Ohio: Pancake lights embedded in pavement guide traffic. p46 ... Jan 21
Vico GM Diesel, Memphis, Tenn.: Fold-up light tower has own power plant. *. p134 ... Apr 8
Cal-West Electric, San Francisco, Calif.: Electric lighting tower. B p51 ... Apr 29

● Loaders, see: ● Excavators; Hauling & Materials handling, see also: **● Trucks**

● Materials handling, see: ● Excavators; Hauling & Materials handling

● Paving, see also: ● Concrete machinery
Arrow Manufacturing, Denver: Pavement breaker expands role. **. p45 ... Jan 7
Barber-Greene Co., Aurora, Ill.: Asphalt finisher is bigger and better. *. p90 ... Jan 28
Rex Chainbelt, Milwaukee, Wis.: Place slurry seal in one pass. *. p92 ... Feb 18
Cleveland Equipment, Garden City, Mich.: Tandem bridge handles steel mesh for pavement. p97 ... Feb 18
McDowell-Wellman Engineering, Cleveland, Ohio: Controls convert asphalt plants. p46 ... Mar 11
Blaw-Knox, Mattoon, Ill.: Compact asphalt paver goes small jobs. *. p182 ... Mar 18
Stone Conveyor, Honeoye, N.Y.: Power screed. B p184 ... Mar 18
Maxon Construction, Dayton, Ohio: Spreader serves slipform paver. *. p121 ... Apr 8
Littleford Bros, Cincinnati, Ohio: Paver has four-wheel drive. *. p123 ... Apr 8
Clipper Manufacturing, Kansas City: Saw train cuts center joint. *. p123 ... Apr 8

Iowa Mfg., Cedar Rapids, Iowa: Asphalt plant two-stage dust collector. p126 Apr 8
National Utility Products, Cleveland, Ohio: Manholes raised in 30 minutes,**. p59 Apr 15
Littleford Bros., Inc., Cincinnati, Ohio: Asphalt plant that travels. B p45 May 6
Clipper Paving, KansasCity, Mo.: Automatic joint inserter joins the paving train. p67 May 13
Highway Equipment, Cedar Rapids, Iowa: Self-propelled spreader has variable widths. p67 May 13
Hauck Construction, Teterboro, N.J.: Asphalt joint sealer. B p68 May 13
Slurry Seal, Waco, Tex.: Slurry sealing rig. B p68 May 13
R. A. Hanson, Palouse, Wash.: Slipform machine spreads, trims base course material. p50 May 20

• Pipes
Wheeler Mfg., Ashtabula, Ohio: Hydraulic pipe cutter,*. B p98 Feb 18
N. B. Products, New Britain, Pa.: Sewer pipe caps. B p184 Mar 18
Ceilcote, Cleveland, Ohio: Plastic pipe flanges. B p184 Mar 18
Shamrock-Neatway Products, Minneapolis, Minn. Pipe sleeves. B p184 Mar 18
Allen System of Underground Utility Control, Wheaton, Ill.: Strip of Plastic warns of buried pipes,*. p132 Apr 8
National Utility Products, Cleveland, Ohio: Manholes raised in 30 minutes,** p59 Apr 15
Triangle Conduit & Cable, New Brunswick, N.J.: Pre-insulated pipe. B p51 Apr 29

• Plastics, Rubber
Houses may emerge from plastic half-shell,*. p81 Jan 28
Carl N. Beetle Plastics, Fall River, Mass.: Plastic fence. B p45 Feb 4
Allen System of Underground Utility Control, Wheaton, Ill.: Strip of Plastic Film warns of buried pipes,*. p132 Apr 8
Nylon dam controls Hong Kong's water supply. p102 Apr 8
Neoprene makes a bridge joint,**. p36 May 6

• Safety; Maintenance
American Powerstage, Houston, Tex.: Steel cleaner. B p98 Feb 18
Armco Steel, Middletown, Ohio: Washers ward drivers and secure guard rails. p168 Mar 18
United-State Steel, Pittsburgh, Pa.: Strong beam, weak post raise guardrail safety. p173 Mar 18
Atlas Safety Equipment, Brooklyn, N. Y.: Rope grab. B p66 Apr 15
Lull Engineering, St. Paul, Minn.: Mortar tank. B p51 Apr 29

• Scaffolding; Ladders; Elevators
Swing-Lo Suspended Scaffold, Coverd, Mich.: Bridge scaffold hangers roll over girder splices. p180 Mar 18
Scaffold hugs recessed wall for Manhattan building with triangular columns,*. p101 May 27
Parking Systems, Long Island City, N.Y.: Tall parking tower,*. B p206 Jun 17

• Tractors and attachments; Dozers; Landscaping; Hwy maintenance
Caterpillar Tractor, Peoria, Ill.: Moldboard push plates. B p48 Jan 7
Tool Gear & Pinion, Cincinnati, Ohio: Stumpcutter works in frozen soil. B p46 Feb 4
Caterpillar Tractor, Peoria, Ill.: Artic lated rig maneuvers well,*. p92 Feb 18
Balmar Tractor, Baltimore, Md.: Rubber-Tired tractor has one of three dozer blades. p93 Feb 18
Ram Enterprises, Shreveport, Iowa,*. p98 Feb 18
Caterpillar, Peoria, Ill.: One man operates tandem pusher,*. p40 Mar 4
Deere & Co., Moline, Ill.: Crawler has 1 1/8-cu-dy bucket,*. p162 Mar 18
Yale & Towne, Inc., Batavia, N.Y.: Side bucket fits tractor shovels,*. p162 Mar 18
Reinco, Plainfield, N.J.: Mulcher also seeds and fertilizes,*. p121 Apr 8
Balderson Inc., Wamego, Kansas: U-Blades for wheel tractors. B p45 May 6
Fleco, Jacksonville, Fla.: Tractor-mounted rake,*. p50 Jun 3

• Trucks, Trailers, Tires; Vehicles, see also: • Excavators & Hauling
Lightweight torque converters. B p48 Jan 7
Caterpillar Tractor, Peoria, Ill.: Truck diesel. B p46 Feb 4
Wisconsin Trailer, Richfield, Wis.: Equipment trailers. B p46 Feb 4
Hyster, Danville, Ill.: Fork-lift truck. B p98 Feb 18
KW-Dart Truck, Kansas City, Mo.: End dump truck hauls 65 tons,*. p48 Feb 25
Galion Allsteel Body, Galion, Ohio: Dump bodies and trailers are made of welded steel. p48 Feb 25
International Harvester, Chicago, Ill.: I-H redesigns its light trucks,*. p46 Mar 11
Minn. to legalize studded tires. CW p41 Mar 18
Dodge Public Relations, Detroit, Mich.: Dodge revamps pickups, conventional cab trucks. p166 Mar 18
Tilt-Top Trailer, Inc., Milwaukee, Wis.: Tilt-top trailers have wide range of capacities. p134 Apr 8
Deere & Co., Moline, Ill.: Three cylinders power crawler,*. p60 Apr 15
Pitchford, Pittsburgh, Pa.: Tracked buggy. B p66 Apr 15
General Motors, Hudson, Ohio: Rear dumps have new suspension,*. p56 Apr 22
General Engines, Thorofare, N.J.: Six-ton trailer. B p45 May 6
Kaiser Jeep, Toledo, Ohio: Jeeps get 8-cylinder engines,*. p40 May 6
Clark Equipment, Battle Creek, Mich.: Big lift truck handles loads on rough terrain,*. p62 May 13
Engler Instrument, Jersey City, N.J.: Device records trailer mileage,*. p61 May 13
Oshkosh Motor Truck, Oshkosh, Wis.: Utility truck carries earth-boring machine. p115 May 27
Hyster, Danville, Ill.: Lift truck. B p50 Jun 3
KW-Dart Truck Co., Kansas City, Mo.: Rear-dump truck hauls 67 cu yd,*. p195 Jun 17

• Walls and Panels, Masonry, Tiles, Roofing
Kalwall, Manchester, N.H.: Insulated translucent panel. B p48 Jan 7
New England Carbide Tool, Medford, Mass.: Masonry blades. B p48 Jan 7
Bricks for Britain. B p49 Feb 11
Steel joist studs a plaster wall,*. p161 Mar 18
Armstrong Cork, Lancaster, Pa.: Acoustic tiles. B p66 Apr 15

• Water & sewage items; Pumps; Sanitation equipment
New name for equipment manufacturers' group: Water and Wastewater Equipment Manufacturers Association Inc. B p23 Jan 7
Smith-Blair, San Francisco, Calif.: Cast iron couplings. B p48 Jan 7
Templeton, Kenly & Co., Broadview, Ill.: Foot pump. B p46 Feb 4
Textron Inc., Chester, N.Y.: Compact self-priming pump. B p46 Feb 4
White Consolidated Industries, Fairview, Pa.: Bar stock valves. B p48 Jan 7
Standard Steel Works, North Kansas City, Mo.: Self-propelled water tanks. B p46 Feb 4
Alpine Geophysical Associates, Norwood, N.J.: Recorder permits forecast of ocean wave behavior. p97 Feb 18
Reuland Electric, Industry, Calif.: Wound totor motor. B p184 Mar 18
Capital Controls, Colmar, Pa.: Gas chlorinator. B p184 Mar 18
Whiteman, Pacoima, Calif.: Concrete pump. B p184 Mar 18
Barnes Manufacturing, Mansfield, Ohio: Contractor trash pump has two cleaning ports. p129 Apr 8
Bell & Gossett Hydronics, Morton Grove, Ill.: Centrifugal pump. B p51 Apr 29
Hale Fire Pump, Conshohocken, Pa.: Diaphragm pump,*. B p45 May 6
Emerson Electric, St. Louis, Mo.: Jet pump motors. B p45 May 6
Sump pumps dried deep site Boston apartment,*. p59 May 13
New York Air Brake, Providence, R.I.: Precast filter bottoms. B p50 Jun 3
Dorcon, Warren, Penna.: Water filters. B p50 Jun 3

• Welding
The Lincoln Electric Co., Cleveland, Ohio: Electrode. B p46 Feb 4
Henes, Phoenix, Ariz.: Welder's spotlight. B p98 Feb 18
Air Reduction, Warren, Mich: Electrode cable connector. B p184 Mar 18
National-Standard, Niles, Mich.: Reel stand. B p68 May 13
Union Carbide, New York, N. Y.: Flux-coated wire guide speeds vertical welding. diag. p115 May 27
Japanese develop weldable extra high-tensile steel,*. p172 Jun 17

PUBLIC WORKS, see project in question see also: CONSTRUCTION BUSINESS, • Financing; ECONOMY

PUMPS, see: PRODUCTS & EQUIPMENT, • Water and sewage items, Pumps

R

RADAR, RADIO, see: ELECTRONICS see also: PRODUCTS & EQUIPMENT, • Communications

RADIOACTIVITY, RADIATION, see: ATOMIC ENERGY

RAILROADS, see also: TRANSPORTATION
1965: problems and progress for roads and rails,**. p82 Feb 11
Japanese help use Sudan rails. B p55 Feb 18
Rail transit lines start in Munich, Brussels, Lyon. p148 Mar 18
Railroad overpasses easy traffic woes at Beaumont, Texas,**. map. p34 Mar 25
Antwerp, Belgium to take first step toward rail rapid transit system. B p25 May 6
Discussion on railines in expressway median. B p32 May 13
Bright future for rail transport discussed at ASCE meeting. p53 May 27
Railroads strong again. e p210 May 27
Niagara Falls monorail with a view. B p23 Jun 3
Rock core borings in East River for NYC new subway tunnel,*. p29 Jun 10
Flashy speeds and automation for new Moscow subway,**. p54 Jun 10
High speed train will test on track near Trenton, N.J. WO p52 Jun 17
Trains to go under Libby Dam, map. p61 Jun 17
Highest railroad fill is topped out in Idaho. p61 Jun 17
French test monorail air-cushion car at 250 mph,*. p158 Jun 17
Prestressed concrete ties used on mainline railroad in North Carolina. B p63 Jun 17

RECLAMATION, see: SOIL; WATER RESOURCES

RESEARCH AND TESTS, see also: SPECIFICATIONS AND STANDARDS
San Francisco building shaken for seismic tests,*. p41 Jan 7
Glass fiber matting prevents sewage lagoon bank erosion. p44 Jan 7
Studies on feasibility of irradiated plastic impregnated woods. WO p25 Jan 21
HRB streamlines for greater activity. p32 Jan 21
Foamed-plastic pavement. RC p12 Jan 28
Highways also get accredited labs. p44 Jan 28
Water research center in Chicago. B p49 Feb 11
Photographs and maps of the moon,*. p107 Apr 8
Infrared photographs show Hawaii reservoir water leakage. p108 Apr 8
Money for water resources research by state colleges. WO p23 Apr 15
Research and development of BPR confers on statistics and quality control. p28 Apr 15
Airborne laser maps terrain,*. p57 Apr 15
San-Fran Bay area opens test track,**. p35 Apr 22
Research spurs plastic design for multistory frames,*. diags. p36 Apr 22
The laser comes to construction. e p96 Apr 29
Michigan pile test results,*. tables. p26 May 20
Gamma rays probe Gulf of Mexico sediment. p104 May 27
New method measures slightest earth move at Stanford Univ geology lab. p104 May 27
Hwy research program contracts. p104 May 27
Electro osmotic system stops walls sponging groundwater,*. p48 Jun 3
Epoxy repairs cracked beams. p48 Jun 3
Radioactive isotopes count high head turbine flows. p49 Jun 3
Electrically heated wires cure concrete floorslab. p49 Jun 3
Univ. of Rhode Island offers program in ocean engineering. B p34 Jun 10
French test monorail air cushion car at 250 mph,*. p158 Jun 17
Concrete beam-to-column assembly tested in Skokie, Ill.,*. p180 Jun 17
ASTM backs national standards body—Standards Institute of the USA. p17 Jun 24
ASTM is fine, but it can do more, new president Legget says,**. p57 Jun 24

RESERVOIRS, see: WATER RESOURCES; see also: BUILDINGS, • Storage, Tanks

RIVERS, see also: DAMS; POWER; WATER RESOURCES
Rampaging rivers in Pacific Northwest cause $1 billion flood damage,**. p20 Jan 7
Carolina utility wants to harness several streams. p29 Jan 14
Annual review, river use and control, major projects,**. p98 Feb 11
Best defense against floods in Klamath, Calif. B p57 Mar 18
Second thoughts on floods. RC p16 Mar 25
New water plans for West Coast after floods. p17 Apr 1
Rivers studied in Vicksburg hydraulic lab,**. p70 Apr 8
Flood control: lost bargain – but for whom. e p96 Apr 22
Cooperation cut flood damage in California. RC p10 Apr 29
FPC issues "Planning Status Reports" on rivers. B p27 Apr 29
$250m in water jobs recommended by Corps' Rivers & Harbors board. p25 May 6
Money approved for key projects. CW p21 May 13
$263m authorization approved for 10 river basin projects. WO p17 May 20
Arkansas and Red River basins carry 27,000 tons of salt daily. B p59 May 27
Water from one river system feeds another in Norwegian hydro plan,*. map. p70 May 27
Senate expands river basin bill. p28 Jun 10
Federal Power Commission releases "Planning Status Reports" appraising hydroelectric licensing. B p34 Jun 10
John L. Person becomes Executive Vice President of National Rivers and Harbors Congress. B p63 Jun 17
Floods pour out of the Rockies,*. p18 Jun 24

Androscoggin River
Federal Power Commission issued study permit to New Hampshire. B p19 Apr 1

Arkansas River
Step by step – a ladder for barges,**. diag. p38 Mar 25
Ports built; pollution halted. p42 Mar 25
Salt pollution to be controlled. CW p21 Jun 10

Chariton River, Iowa
Eight contractors compete for flood control jobs in Iowa, unit prices. p64 Jun 10

Columbia River, Canada
Gen. McNaughton against exporting Canadian water. CW p13 Jun 3

Colorado River, Calif.
There's always a soggy lining. CW p43 Feb 18
Calif and Arizona share water. p53 Feb 18

Danube River, Europe
Iron Gate project. B p32 May 13

Flint River, Mich
Flood control project unit prices. p59 Jan 14

Mekong River, Southeast Asia
President Johnson boosts basin plan, map,* p25 Apr 15
The Mekong – potential source of strength for Southeast Asia. p26 Apr 15
Mekong – weapon of peace. e p104 Apr 15

Minnesota River
Lack of Mankato local interest responsible for flood damage. CW p21 Apr 15
Flood control works prevented $50m damage. p27 Apr 22

Mississippi River
St. Louis flood protection system,**. diag. map. p28 Jan 7
Flood warning in Minn. and northern Wis. CW p47 Apr 8

(Continued)

(Continued)
Basin model at Vicksburg Experiment Station.*. p70 Apr 8
Garrison irrigation job of $207m approved. p30 Apr 22
New hydrological study needed after recent flood levels.*. p25 Apr 29
Contractors fight flood, emergency levees built.*. p21 May 6
Correction on flood levees around St. Paul. RC p8 May 20

Moselle River, Europe
Land movements threaten valley. p31 Jan 21

Orange River, South Africa
Six American contractors can bid hydro job. p50 Jan 28

Ouse River, England
Aeration tower adds oxygen to water supply.*. p46 Jun 3

Potomac River
Test site for new ideas in river development.*, map. p38 May 13

Raritan River, N.J.
Water for thirsty North Jersey.*. p38 Apr 29

Red River, Canada
Huge canal will divert flood waters around Winnipeg.**, map. p138 Jun 17

Red River, USA
Salt pollution to be controlled. CW p21 Jun 10

Rhine River, Europe
Pollution threatens beauty, four nations pour their wastes. map.*. p43 Apr 15

Rouge River, Oregon
Flood control and irrigation studied. B p25 Mar 4

Snake River, Washington
Ice Harbor lock repaired. CW p15 Mar 4
Lower Monumental Lock and Dam breeched. CW p17 Apr 29

Tennessee River
Fill will carry Interstate hwy near Chattanooga.*, diag. p26 Mar 4

ROCKS, see: SOIL,
see also: EXPLOSIVES

ROOFS, see also: PRODUCTS & EQUIPMENT
Precast dome roof for Univ. of Va. spans 282 feet.**. p66 Jan 28
Circular cinerama theater in San Jose, Calif. has lumber dome roof.**. p73 Jan 28
Hyperbolic paraboloid roof for San Francisco cathedral.*. p49 Jan 28
Precast dome circle amid squares in Trenton's cultural center.**. p24 Mar 11
Elliptical dish sets record for cable supported roofs, Oklahoma City.*, diag. p66 Mar 18
Houston stadium dome troubles.*. p31 Apr 15
BOAC terminal roof will double as heliport. p28 Apr 22
Arizona State Fair Coliseum: record set for catenary roof.*. p30 Apr 22
Paint the Houston stadium dome white.*. p24 Apr 29
San Diego library: waffle slab roof cast on concrete pans.*. p36 May 13
Hawaiian steel erector raises warehouse roof for more sugar.*, diag. p93 May 27
Shea Stadium dome, NYC, will not hide fly balls, diag. p20 Jun 3

RUNWAYS, see: AIRPORTS; PAVING

S

SAFETY, see: ACCIDENTS & SAFETY
PRODUCTS & EQUIPMENT, • Safety, • Fire Protection
see also subject, e.g. TRAFFIC, HWY DESIGN

SANITATION, see: HEALTH; SEWAGE; WATER POLLUTION

SAWS, see: PRODUCTS & EQUIPMENT, • Instruments and Tools

SCAFFOLDING, see: PRODUCTS & EQUIPMENT

SCANDALS, see: ETHICS

SCHOOLS, see: BUILDINGS, • Schools

SCRAPERS, see: PRODUCTS & EQUIPMENT

SEABEES, see: NAVY

SEALANTS, see: PRODUCTS & EQUIPMENT, • Adhesives etc

SEISMOLOGY, see: SOIL
see also: PRODUCTS & EQUIPMENT
• Instruments

SEWAGE, see also: WATER POLLUTION
PRODUCTS & EQUIPMENT
Sewerage costs reach new highs, unit prices. p163 Apr 8
Forecast of sewage construction corrected. RC p16 Apr 15
Sewerage costs and indexes. p84 Jun 17

• American

Arizona
Tri-city outfall sewer. Unit prices. p58 Mar 11

Florida
Miami's outfall into the Atlantic, unit prices. p122 Mar 18

Illinois
Chicago probes V. W. Bacon, superintendent of Metropolitan Sanitary District.*. p17 Jun 24

Massachusetts
Thirteen compete for sewer job. Unit prices. p58 Mar 11

Minnesota
Clay sanitary sewer unit prices, Spring Lake Park. p52 Feb 25

Missouri
Kansas City may go to court for Missouri River pollution. p24 May 6
Kansas City gets four months reprieve on pollution control measures. B p32 May 13
Underwater sewer pipe for Kansas City; unit prices. p62 Jun 24

Nebraska
Sewage lagoon bank erosion prevented by glass fiber matting. p44 Jan 7

New Hampshire
Portsmouth sewer pipe rides into place on an underwater track.**. p26 Feb 25

New Jersey
Essex County sanitary sewers, unit prices. p151 May 27

New York
$1.7 billion sought for sanitation. p22 Jan 7
Suffolk County dilemma: build sewers and treatment plants or don't build homes. p30 Jan 14
Small site complicates big Newton Creek, NYC, sewage plant, map.**. p62 Jan 28
Rochester sewer tunnels, unit prices, diags. p118 Mar 18
Leaky conduit buckled huge concrete sewage tank in Jamaica. p52 Apr 8

Ohio
Cleveland must fix leaky sewers. p48 Jan 28

Pennsylvania
Floating pipe pushed by motor boat.**. p57 Jun 10

Texas
Fort Worth sewer design develops into a lab job.*. p113 Apr 8

Washington
Pipe drains leak all over.**. p68 Jan 28
Seattle suburban sewers unit prices. p52 Mar 4
Three contracts for Washington sewerage facilities, unit prices. p55 Jun 3
Two major treatment plants mean Seattle's victory over pollution.**, regional map. p44 Jun 10

• Foreign
Nicaragua to study Lake Xolotlan sewage project. B p23 Jun 23

SHELTERS, see: BUILDINGS, • Shelters

SHIPWAYS, see: CANALS; PORTS AND HARBORS

SKYSCRAPERS, see: BUILDINGS

SLUM CLEARANCE, see: CITIES; HOUSING

SMALL BUSINESS ADMINISTRATION, see: ECONOMY

SNOW, see: WEATHER

SOCIETIES, see subject, e.g. ENGINEERING, RESEARCH etc.

SOIL AND FOUNDATIONS, see also: PRODUCT & EQUIPMENT; WEATHER
Seismic tests performed on San Francisco tall bldg.*. p41 Jan 7
Land movements threaten Moselle valley, Europe. p31 Jan 21
More facts on earthquakes wanted. RC p32 Jan 28
Landslide dents Los Angeles hwy fund. p56 Feb 4
Ruaumoko, god of volcanos and earthquakes.*. p43 Feb 11
Texas soil has good bearing capacity. RC p18 Feb 18
Earthquake in Chile causes copper tailings avalanche. p54 Apr 8
Pacific N-W earthquake.*. p22 May 6
Seismic design discussed at Washington D.C. symposium. p22 May 6
Sump pumps dried deep site, Boston apartments.*. p59 May 13
New method at Stanford Univ measures slightest earth move. p105 May 27
Rock core test boring for NYC subway under East River.*. p29 Jun 10

• Dredging
Baltimore Harbor, unit prices. p133 Feb 18

• Earthmoving, Excavation, see also: PRODUCTS & EQUIPMENT
More haste, less speed in sheeting method. RC p6 Jan 2
Electric wheels move earth for Ohio highways near Perrysburg.**. p40 Jan 21
Louisiana levee, unit prices. p133 Feb 18
Tennessee river fill will carry interstate hwy.*, diag. p26 Mar 4
Calif. channel digging, unit prices. p73 May 13
Kansas levee award, unit prices. p55 May 20

Erosion; Drainage; Shore protection
Artificial sand dune along North Carolina's Outer Banks to prevent erosion. B p23 Jun 7
Sewage lagoon bank erosion prevented by glass fiber matting. p44 Jan 7
Jamaica drains Liguanea Plain west of Kingston.*. p37 Feb 25
South Carolina clay bank slides, kills seven. p51 Mar 18
Boston waterfront landfill unit prices. p55 Apr 29
East Pakistan's coastal embankment.*, map. p15 Jun 17

• Foundations
Delaware Memorial Bridge foundation – subaqueous record. B p25 Mar 4
Batter piles brace sheeting around Wells Fargo bldg excavation, San Fran.**. p26 Mar 11
Tremies work nonstop to seal pier of Delaware Memorial Bridge.*. p37 Apr 1
Who is first on bolting timber lagging to studs in sheeting? RC p42 Apr 8
Dept of Interior makes a bang-up survey. B p32 May 13
Sump pumps dewater foundations of Boston apartment.*. p59 May 13
Pumping straightens Mexico bldgs after earthquake.*, diag. p86 May 27
Electro-osmotic system stops walls sponging groundwater.*. p48 Jun 3

• Stabilization, Treatment
Enzymatic products cut costs of soil compaction. p174 Mar 18
Leakage continues at Taum Sauk reservoir.*. p5 Jun 17
Favorable report on soil stabilization in Alaska. CW p51 Jun 17

SONIC BOOM, see: AIRCRAFT

SPACE AND MISSILES
Erecting the moon-rocket Vertical Assembly Bldg at Kennedy Space Center.**. Cover and p25 Jan 7
NASA builds a bottleful of space near Cleveland, diags. p50 Jan 14
NASA develops sensor for spotting crane loads. p45 Jan 21
NASA construction tables. p46 Jan 28
Moonport in Florida is planner's laboratory as population soars. p44 Feb 4
Strike halts NASA job at Cape Kennedy. p62 Feb 4
NASA to pick up new construction boss. WO p17 Feb 25
Low bid on 50 Minuteman ICBM silos in Montana is above estimate. p25 Feb 25
Morrison-Knudsen expect no labor problems on Montana Minuteman launchers. CW p41 Mar 18
Pictures of the moon.**. p107 Apr 8
VAB on Merritt Island reaches top.*. p28 Apr 15
Test stand for moon rocket motor, NASA's Marshall Center, Mississippi test facility.**. Cover and p42 May 20
and correction RC p38 Jun 17
Spain to lease Canary Islands base for satellite station. CW p49 May 27
Computer service by satellite to remote construction. WO p23 Jun 10
Helicopters lift Vertical Assembly Building wall panels at Cape Kennedy, Fla.*. p168 Jun 17

SPECIFICATIONS, STANDARDS,
see also: BUILDING CODES; RESEARCH & TESTS; LUMBER
Standardized bldg components considered. WO p23 Jan 14
U.S. to foster code and standards cooperation.*. p43 Jan 28
Standards' expanding role. e p76 Feb 4
Dept of Commerce speeds standards approval. p50 Feb 18
Will performance specs work? p21 Mar 4
Lumber standards rewrite to be tackled. p47 Mar 18
Standard specs for Los Angeles county. p59 Mar 18
Commerce Secretary favors national standards body. WO p17 May 6
No color code for steel, yet. CW p21 May 13
Water quality standards. p22 May 20
Metric system in Great Britain. p49 and p18 May 27 Jun 3
Construction Specifications Institute installs H. B. Baume as president.*. p52 Jun 3
Lumbermen offer new dimensions, table. p30 Jun 10
Standards Institute of the USA backed by ASTM. p17 Jun 24

STEEL
American Iron and Steel Institute names best steel designs.**. p30 Feb 4
Split on lumber standards. CW p21 Feb 4
Identification colors. CW p15 Mar 4
Advances in plastic design to be revealed in Lehigh Univ conferences.*. p47 Mar 18
Steel bridges never require painting.*. p51 Mar 25
Plastic design of steel frames: research, new concepts, British methods.**, diags. pp36-43 Apr 22
Strike delay takes pressure off construction. WO p19 Apr 29
No color code for steel, yet. CW p21 May 13
Turkey opens steel plate plant.*. p22 Jun 3
Japanese develop weldable extra high-tensile steel.*. p172 Jan 17
Brittle failure: steel unweldable, concrete steps in for London office bldg. p20 Jun 24

STRATEGIC AIR COMMAND, see: SPACE

STRUCTURAL FAILURES, see: ACCIDENTS AND FAILURES

SUBWAYS see: CITIES; RAILROADS; TRANSPORTATION

SURVEYING AND MAPPING
Aerial surveying gives New Haven detailed maps.**. p46 Jan 14
Airborne laser maps terrain.*. p57 Apr 15

T

TAXATION & TARRIFS, see also: ECONOMY
California gasoline tax. CW p39 Jan 28

Highway taxation. e p76 Feb 4
Los Angeles transit body on taxation track. p154 Feb 11
Tax exempt industrial development bonds draw fire again. WO p45 Feb 18
Tax break for home investments should cut business spending abroad. WO p17 Feb 25
Roadbuilders ponder hwy taxes. p22 Mar 4
Administration to study local codes, zoning and taxes. p20 Mar 11
Illinois gas tax to go to schools. CW p47 Apr 8
Tax matters in Congress. p21 Apr 29
Montana proposed tax perils federal aid: B p27 Apr 29
Tax out, aid in for Montana's highways. B p32 May 13
Trucks to pay for Interstate hwy system. WO p17 May 20
Tax cuts curb recession better than public works spending. WO p11 Jun 24
Tax laws are one cause of cities' ugliness. p19 Jun 24

TELEPHONE, see: UTILITIES

TELEVISION, see: RADAR, RADIO, TELEVISION

TENNESSEE VALLEY AUTHORITY
Getting watts to market. B p31 Feb 4
Largest boiler ordered for power plant. p21 Jun 3
Mine-mouth steam power plant will be world's largest. p59 Jun 17

TILES, see: PRODUCTS & EQUIPMENT, • Walls, Masonry

TIRES, see: PRODUCTS & EQUIPMENT, • Trucks, Vehicles

TOLLS, see: BRIDGES; HIGHWAYS

TOOLS, see: PRODUCTS & EQUIPMENT

TRAFFIC
Signs at entrance ramps warn of traffic conditions. p59 May 13

TRAILERS, see: PRODUCTS & EQUIPMENT, • Trucks and Trailers

TRAMWAYS, see: CABLES; TRANSPORTATION

TRANSPORTATION, see also: HIGHWAYS; RAILROADS
San Fran Bay Transit: tunnel bids have $17 m spread. p27 Feb 4
Annual review and forecast, techniques and trends, major projects. p82 Feb 11
1965: Progress and problems for roads and rails. **. p82 Feb 11
Los Angeles transit body on taxation tracks. p154 Feb 11
Transit grants begin to roll. p50 Feb 18
Seattle transit. B p25 Mar 4
New York Tristate: permission to be approved. CW p41 Mar 18
Los Angeles makes sixth rail plan, map. p306 Mar 18
Big plans for transportation around Seattle. CW p9 Apr 1
San Fran rapid transit expects strike-free construction. CW p9 Apr 1
San Fran Bay Area tests rapid tract. B p19 Apr 1
California awards study for ground, water, and air transportation. B p19 Apr 1
Transit proposals collect in Los Angeles. p53 Apr 1
Rods will anchor tower footings for Sandia Peak Tramway in New Mexico. *, diag. p116 Apr 8
Labor peace pledged for San Fran Bay transit job. p58 Apr 8
Caution on transportation fantasies. e p228 Apr 8
Washington transit system plans cut. CW p21 Apr 15
Boston subway bids to be taken. CW p21 Apr 22
Steel capsule rides in Canadian oil pipeline. p29 Apr 22
San Fran Bay Area opens test track. *. p35 Apr 22
Transportation improvements aid Philadelphia's renaissance. **, map. p44 Apr 22
Progress needs orderly process. RC p10 Apr 29
Transit tie-ins in San Fran Bay. B p27 Apr 29
Key posts in transports filled. p51 May 6
Pipeline vs railroad for coal transport. p31 May 13
Buses for Baltimore's rapid transit. p32 May 13
Philadelphia subway to serve shipyard. CW p15 May 20
Transportation has a bright future, ASCE meeting finds. p53 May 27
Setback for Southern California rapid transit. CW p49 May 27
F. Matsuda heads transportation Dept in Hawaii. *. p131 May 27
Contractors eye Bay Area transit job, orientation meeting held. p184 May 27
States and communities will spend $18.5 billion for transportation in 1970. p28 Jun 3
$90 million granted for transportation study. CW p13 Jun 3
San Fran Bay Area: cast on site standardized elevated transit section. **. p32 Jun 3
Transit plans move ahead in Washington D.C. and in Cleveland. p325 Jun 17
Penna legislature to approve mass transit aid. CW p11 Jun 24

TRUCKS, see: PRODUCTS & EQUIPMENT

TRUSSES, see: BEAMS, GIRDERS, TRUSSES

TUNNELS
Tunneling machines: gophers, not moles. RC p23 Jun 17
Japan is marketing mechanical tunneling machine. *, diag. p189 Jun 17

• American
Third tube for Manhattan-Queens Midtown Tunnel. CW p13 Jan 7
Hwy and sewage tunnel planned from Lake Tahoe to Carson Valley, Nevada. CW p21 Jan 14
San Fran Bay Transit: tunnel bids have $17m spread. p27 Feb 4
Tunneling mole fails in NYC Harbor water tunnel job. p31 Apr 15
New Jersey's longest bored tunnel carries water: storm drain for Interstate 280. ** p34 Apr 15
Concrete prices are key to Oklahoma power tunnel, unit prices. p76 Apr 15
Mole will bore through sandstone cutting New Mexico tunnel, Navajo Irrigation. *. p23 Apr 29
Rock mole makes 200 ft a day in New Mexico's water tunnel. *. p30 May 13
Tunneling moles infest San Juan mountains: Azotes, Blanco, Navajo Irrigation tunnels. p23 May 20
Low bid is high for Fryingpan-Arkansas Project. B p59 May 27
Rock core borings in East River for NYC subway tunnel. *. p29 Jun 10

• Foreign
Peru builds tunnel through the Andes to tap Amazon for irrigation. p154 Mar 18
English Channel: survey ships probe tunnel route. **. p98 Apr 8
Lebanon's Awali Tunnel holed through, link with Litani River provided, map. p20 May 6
Austria: Alpine tunnel, Felber-Tauern, to speed tourist travel. **. map. p34 May 6
Switzerland: San Bernardino tunnel holed through. *. p53 May 13
Norway: Hard rock tunnels link lakes in hydro system. **. p70 May 27
English Channel rock survey goes better. p57 Jun 17

TURBINES, see: PRODUCTS & EQUIPMENT, • Engines and Power Units

U

UNDERPASSES, see: TUNNELS

UNIT PRICES, see: CONSTRUCTION BUSINESS, • Unit Prices see project in question

URBAN AFFAIRS, URBAN RENEWAL, see: CITIES

U.S., see: AIR FORCE; CONGRESS; ENGINEERS; NAVY etc.

V

VEHICLES, see: PRODUCTS & EQUIPMENT, • Trucks, Vehicles

VENTILATION, see: AIR CONDITIONING, VENTILATION

VIADUCTS, see: BRIDGES

VIBRATORS, see: PRODUCTS & EQUIPMENT

W

WALLS AND PANELS, see also: PRODUCTS & EQUIPMENT
Congress debates walls. CW p43 Feb 18
Will the Berlin Wall be replaced by moat and fence? CW p15 Mar 4
Contractor casts a craggy cliff: climbing wall in Tokyo. *. p84 May 27
Call for bearing wall revival at Pittsburgh conference. p21 Jun 8
Brick bearing walls for tall bldgs: structures with a future. e p96 Jun 10
Plaster against wallboard: plasters wage. CW p51 Jun 17

WATER POLLUTION
New York State seeks $1.7 billion for sanitation. p22 Jan. 7
Opening shots in President's war on water pollution. *. p47 Jan 28
Florida canal cleaned by plant-eating cows. B p31 Feb 4
Desirable budgets for states. B p31 Feb 4
President Johnson restates his stand against pollution. WO p39 Feb 11
National Asso of Manufacturers objects to strong federal pollution control. p48 Feb 11
Annual review, techniques and trends, major projects. 1965's big issue: federal role in pollution control. **. p98 Feb 11
Six month's grace for Cleveland. CW p43 Feb 18
U.S. and Canada ask study of Great Lakes pollution. p55 Feb 18
Antipollution bill readied for final push. WO p17 Mar 4
Fishkill at the source. B p25 Mar 4
Controls – and cash: water pollution bills in Congress. e p84 Mar 4
Conference on Calumet – Lower Lake Michigan Basin pollution. *. p23 Mar 11
Hard and soft detergents as polluters; diagnosis disputed. RC p24 Mar 18
Water pollution control bill nears vote in House. WO p25 Mar 25
Acid mine drainage threatens Appalachia water supply. p33 Mar 25
Cities along Arkansas River halt pollution. p42 Mar 25
Indiana and Illinois given one year to quit polluting Lake Michigan. B p19 Apr 1
Local vs federal problems. RC p42 Apr 8
Lake Erie pollution is very serious, map. p55 Apr 8
Rhine River pollution. *, map. p43 Apr 15
Water pollution bill ready for House-Senate compromise. WO p17 May 6
Chicago plans costly chlorination in antipollution drive. B p25 May 6
New York State approves governor's $1.7 billion antipollution plan. p31 May 13
States seek federal aid for Great Lakes cleanup. p24 May 20
Maine wants federal $ but no enforcers in pollution problems. p30 Jun 10
Arkansas and Red River salt pollution to be controlled. CW p21 Jun 14
Ground water being contaminated by use of salt on icy roads in Mass. B p34 Jun 10
PHS urges states to revise pollution laws. p56 Jun 17
Governor gets tough on Pennsylvania's water pollution. CW p11 Jun 24
Lake Erie and Detroit River pollution problems. p20 Jun 24
Water quality standards. e p96 Jun 24

WATER RESOURSES, see also: DAMS; IRRIGATION; LAKES; POWER; RIVERS
U. S. Geological Survey publishes a report. B p32 Jan 14
U.S. favors Corps of Engineers over BuRec; table of new project starts. p28 Feb 4
Water research center in Chicago. B p49 Feb 11
Annual review, techniques and trends, major projects. **. p98 Feb 11
Soggy lining in Colorado River, southern Calif. CW p43 Feb 18
Ohio will spend $500 million. B p55 Feb 18
Before the next flood. CW p15 Mar 11
Idaho creates state water resources board. p29 Mar 25
South Calif water plans and bonds. p73 Mar 25
West Coast floods result in new water plans. p17 Apr 1
Water Resources Council – Cabinet-level super agency. *. p51 Apr 8
Corps of Engineers Waterways Experiment Station at Vicksburg, Miss. **. p70 Apr 8
Money for water research by state colleges. WO p23 Apr 15
Idaho creates state water resources board: improper isolationism. e p104 Apr 15
BuRec to build irrigation for Westlands District, Calif. p28 Apr 22
Storing water for thirsty north New Jersey. **. p38 Apr 29
Gov. Smylie on Idaho's water legislation. RC p14 May 13
San Juan-Chama project: Azotea tunnel in New Mexico transfers Colorado water. *. p30 May 13
Am Soc for Testing & Materials on water quality standards. p22 May 20
Fences to keep Colorado snow increasing water supply. **. p51 May 20
Lomond to store new water supply for Scotland. *. p83 May 27
Engineers' professional responsibility for water resources. e p210 May 27
Big week for water resources bids. p26 Jun 10
Drought in Great Lakes watershed caused decrease in power generation. B p34 Jun 10
East Pakistan water resources development. *, map. p150 Jun 17
More for BuRec in fiscal 1966 budget would go to Calif's San Luis water project. p325 Jun 17

• Aqueducts; Reservoirs
Germany's largest reservoirs will aid thirsty Ruhr. *, diag. p41 Feb 4
Ohio reservoir unit prices. p50 Feb 4
Reservoirs store water for thirsty North Jersey. *, map. p38 Apr 29
Atomic power for Tehachapi aqueduct discussed. p56 May 27
Leakage continues at Tau-Sauk pumped storage reservoir. *. p58 Jun 17

• Treatment, see also: ATOMIC ENERGY (for desalting)
Frank C. Di Luzio to head Office of Saline Water. CW p13 Jan 7
Citizens' group claims fluoridation violates individual rights. B p32 Jan 14
U.S. and Israel study large scale desalter. p50 Feb 18
Two new steam-generating desalters for Calif. CW p21 Apr 22
Great Britain to try atomic desalting. p78 May 27
Aeration system adds oxygen to Ouse River for England's water supply. *. p46 Jun 3
Desalting suggested in Maryland. CW p21 Jun 10
Big desalters are now in sight, map, diag. *. p15 Jun 24

• Waterworks, Water mains
Costa Rica waterworks unit prices. p53 Jan 21
Long drink of from Grand Canyon's north to south rim. B p31 Feb 4
Bethlehem, N.Y. watermains unit prices. p138 Feb 11
Water pipeline lowered from ide platform, Lake Champlain, N.Y., *, diag. p90 Feb 18
Baltimore taps its ultimate source: pipes and pumps to bring Susquehanna water. **, map. p30 Mar 4
Alabama water supply system, unit prices. p124 Mar 18
Traffic limits contractor on Brooklyn, N.Y. water main job, unit prices. p126 Mar 18
Concrete water main in Arkansas, unit prices. p59 Mar 25
Tenn. water main costs $22,500 per mile, unit prices. p42 Apr 1
Colorado Springs water pipeline job, unit prices. p163 Apr 8
Detroit water supply improves under Gerald Remus. *. p58 and cover Apr 22
Australian engineers develop system for water supply. B p32 May 13
Chicago filtration plant needs computers. CW p13 Jun 3
Milwaukee water main, unit prices. p104. Jun 17
New York water main, unit prices. p109 Jun 17
Poughkeepsie pumping plant to bring Hudson River water for New York City. CW p11 Jun 24
New water pipe for Madrid, Spain. p40 Jun 24

WATERWAYS, see: CANALS; RIVERS

WEATHER
Ice boom anchored at bottom of Lake Erie. B p33 Jan 21

(Continued)

(Continued)

Ice is a platform for Lake Champlain pipeline lowering, °, diag: p90 ... Feb 18
Synthetics encase heating road system in Austria, °°, p50 ... Apr 15
Texas flood gate for hurricanes, unit prices, p73 ... May 13
Fences to keep Colorado snow increasing water supply, °°, p51 ... May 20
Environmental Science Service Administration to include Weather Bureau, p57 ... May 27
Calif. Dept. of Water Resources plan for northern coastal warning, B p59 ... May 27
FAA finds better snow and ice melter for runways, p22 ... Jun 24

WELDING, see also: PRODUCTS & EQUIPMENT
Ultrasonic tests detect welding defects in Wells Fargo bldg. San Francisco, °, p58 ... May 27

Steel unweldable, concrete steps in for London's Fenchurch Street office bldg, p20 ... Jun 24

WHARFS, see: PORTS AND HARBORS

WIND, see: ACCIDENTS, WEATHER

WINDOWS, see: PRODUCTS & EQUIPMENT, • Doors and Windows

WIRE, see: CABLES, WIRE

WOOD, see: LUMBER

WORLD'S FAIR, see: CITIES, New York

Z

ZONING, see also: BUILDING CODES, CITIES
Administration to study local zoning and taxes, p20 ... Mar 11
NAHB and Urban Land Institute back zoning reform, p29 ... Apr 15
Zoning reform urged, RC p4 ... Jun 3

NAMES

NOTE: For new products MANUFACTURERS, see PRODUCTS & EQUIPMENT in the main section of this Index, pp 13, 14, 15

AGBABIAN, M. S.
Intuition, imagination, and science of structural engineering, RC p32 ... Apr 8
ALLEN BROS. & O'HARA, INC.
Construction company expands with help of a computer, °°, p38 ... Apr 1
ALLEN, W. HARWELL JR.
Chairman of board and founder of Allen Bros. & O'Hara, Inc, °, p38 ... Apr 1
AMMANN & WHITNEY, NEW YORK CITY
Milton Brumer becomes new overseas president, p146 ... Apr 8
ARNOLD, LLOYD L.
San Diego's revolutionary building, RC p18 ... Feb 18
BACKLUND, BRANDON H.
National Society of Professional Engineers rivals with Consulting Engineers Council, °°, p54 ... May 27
BACON, VINTON
Chicago's Better Government Asso, launches investigation of Sanitary District Chief, °, p17 ... Jun 24
BAIER, ROBERT J.
Is the designer the weak link? RC p8 ... Apr 15
BAKER, MICHAEL JR.
Engineer-entrepreneur likes "the next project" the best, °°, Cover and p46 ... May 6
BAKER, R. F.
Heads research and development for BPR, °, p29 ... Apr 15
BALDWIN-LIMA-HAMILTON CORP.
Equipment firm to be purchased by food and chemical company, CW p47 ... Apr 8
BANE, FRANK
Head of commission on Intergovernmental Relations on land-taking costs, °, p27 ... Jan 21
BANNISTER, JAMES
Contractor license in Illinois, RC p14 ... May 27
BASIC CONSTRUCTION CO, NEWPORT NEWS, VA
Uses plastic forms for State of N.Y. Univ. Albany campus job, °°, p34 ... Jan 14
BATES, A. ALLAN
U. S. to foster code cooperation, °, p43 ... Jan 28
New President of American Concrete Institute, °, p49 ... Mar 11
BERKOWITZ, MELVIN
Congratulations Housing and Home Finance Agency, RC p32 ... Feb 18
BERRY, DON
New chairman of Highway Research Board, °°, p49 ... Jan 21
BLATNIK, JOHN
Probes Louisiana roads, °, p58 ... Apr 8
BLOUNT, WINTON M.
Alabama contractor active in politics, civil rights, e p96 ... Apr 29
BOGEN, SAMUEL A.
Mr. Michael Baker and CEC—money or principle? RC p16 ... Jun 17
BOWMAN, WALDO G.
Europe's longest span bridge takes shape in Lisbon, °°, diag, p34 ... Feb 4
Portugal's CE lab attracts world clientele, °°, p70 ... Feb 18
BOYD, ALAN S.
Moves to Under Secretary of Commerce for Transportation, p50 ... May 6
BRIDGE, CHESTER G.
Portland, Me. federal court finds contractor innocent of bid rigging charge, p69 ... May 6
BROCK, DAN S.
Perini "Success Pie" is good, RC p18 ... Feb 18
BRONXVILLE PALMER LTD., WESTCHESTER, NEW YORK
Suit against contractors fails, trial against New York State to start, p94 ... May 13
BRUMER, MILTON
New overseas president of Ammann & Whitney, p146 ... Apr 8
BURNS, JEREMIAH
President of the Building Trades Employers' Association of New York, p54 ... Mar 11
BEUTEL, MORRIS L.
New computer program and new report form improve scheduling, p20 ... Apr 1
Vice President of Allen Bros. & O'Hara, Inc., °, p38 ... Apr 1
BUTLER, ARTHUR C.
National Highway Users Conference advocates BPR studies, RC p10 ... Jan 21

BUZZELL, DONALD A.
Independent consulting engineer recognizes human needs and values, RC p10 ... Jan. 14
CAMELLERIE, J. F.
On lumber standards, RC p20 ... Jan 28
CAMPIOLI, MARIO E.
Appreciates article on House Office Bldg, RC p10 ... Feb 25
CASSIDY, WILLIAM F.
Named chief of engineers, °, p30 ... Jan 14
CELEBREZZE, ANTHONY
Health-Education-Welfare Secretary in the new Water Resources Council, °, p51 ... Apr 8
CHESSON, E. (JR)
"Ingeneers" as against engineers, RC p42 ... May 27
CIER, D. J.
Philadelphia bidding, RC p32 ... Mar 18
CITY RECONSTRUCTION CO, KANSAS CITY, MO.
Kansas real estate firm and NYC investment bank establish redevelopment corporation, p73 ... May 20
CLOSNER, J. J.
Underground gas storage tanks will be a big market, RC p38 ... Jan 17
CONE, JOHN B.
Engineer killed by Vietcong guerillas, p23 ... Apr 29
CONKLIN, WILLIAM J.
Planner for Reston, °, p56 ... Jan 28
CONNOR, JOHN T.
Becomes Commerce Secretary, °, p26 ... Jan 14
Puts the pressure on for a lumber standard, °, p28 ... May 13
CONRAD, MORRIS O.
Weak link a weak argument? RC p6 ... Feb 25
Against restrictive registration of architects, RC p16 ... Mar 25
CRANDALL, HORACE C.
Estimator's ideas find response from consulting engineer, RC p8 ... May 6
CRAWFORD, LEONARD K.
Becomes president of Consulting Engineers Council, °, p60 ... Apr 22
Brings organizational experience to CEC, °°, Cover and p126 ... May 27
CREET, JOHN G.
Gold evaluation, RC p32 ... Apr 8
CREIGHTON, THOMAS H.
Credit on Oakland Overpass described ... Oct 22
CROUCH & HOGH, GLASGOW, SCOTLAND
Scottish oldest consultants celebrate 100th anniversary, p83 ... May 27
DALEY, JOHN
Develops steel-fast prestressing method for concrete slab, °, diag, p24 ... Jun 24
DALRYMPLE, JOHN C.
Becomes director of military construction for Corps of Engineers, CW p21 ... Apr 22
De NISCO, FRED A.
Heads a design division of Albert C. Martin & Associates, °, p100 ... Feb 18
DI LUZIO, FRANK C.
Heads office of Saline Water, CW p13 ... Jan 7
A matter of degree, RC p32 ... Feb 18
Big desalters are now in sight, °, diag, p15 ... Jun 24
DRAVO CORP, PITTSBURGH
Construction and manufacturing company proposes acquisition of Gibbs & Hill, NYC consultants, p206 ... Apr 8
DUFFY, J. P.
For better public housing, RC p12 ... Jan 28
DUGAN, ROY
District 50: A union on the move, °°, p90 ... Apr 15
DUNN, WILLIAM E.
AGC was not co-sponsor of federal mediation, RC p12 ... Feb 4
AGC may have less need for new legislation, °, p19 ... Feb 25
ELDER, R. A.
Executive vice president of Allen Bros. & O'Hara, Inc., °, p38 ... Apr 1
FAIR, GORDON
Influential sanitary engineer retires from faculty of Harvard, p60 ... Jun 24
FALLON, GEORGE
New Public Works chairman, °, p26 ... Jan 14

FIRESTONE TIRE & RUBBER
Cancels plans for synthetic rubber plant in Rumania, WO p17 ... May 6
FIRMIN, R. R.
Estimators' ideas find response from quantity surveyor, RC p8 ... May 6
FOX, ARTHUR, J.
International Federation of Consulting Engineers seeks ways to expand services, p81 ... Jun 10
FOX, BRUCE, A.
Detroit wage boosts hiring, RC p12 ... Feb 4
FREY, CARL
New secretary elected by Engineers Joint Council, p102 ... Jan 28
FULLER, GEORGE A. COMPANY
Headed toward new ownership, p85 ... Apr 15
Reveals purchase details, p184 ... May 27
Fuller Co. sold to BCLM, CW p21 ... Jun 10
GELLERT, DENIS
William J. Mouton "debunks" engineering analysis, RC p29 ... May 27
GIBBONS, EUGENE F.
Weak link a weak argument? RC p6 ... Feb 25
GIBBS & HILL, NEW YORK CITY
Dravo Corp proposes acquisition of old consulting firm, p206 ... Apr 8
GOLDBLOOM, JOSEPH
Is the designer the weak link? RC p16 ... Apr 15
GOLDES, A. A.
Wanted: More facts, less propaganda, RC p32 ... Jan 28
GOWAN, JAMES
R. S. Reynolds memorial award goes to English architect for Engineering Building at Leicester Univ, °, p21 ... Jun 3
GUMPERTZ, WERNER H.
Road planners fail, RC p16 ... Jun 17
HADLEY, HOMER M.
Concretefill dam, RC p10 ... Jan 21
HALABY, NAJEEB E.
Urges expansion of D. C's National airport, p21 ... May 6
HARDEMAN (PAUL) INC., STANTON, CALIF
Financially troubled firm offers debt payment plan, p23 ... Jan 7
Universal American Corp. gives cash aid, p29 ... Jan 21
HARDIN, IRA
New AGC head: Lift contracting's image, °°, Cover and p54 ... Mar 25
HART, JAMES
Second thoughts on floods, RC p16 ... Mar 25
HARTFORD, F. D.
Foreign aid problems, RC p43 ... Jun 17
HARWOOD, JOHN
Appointed to Virginia Highways, °, p102 ... Jan 28
HEDLEY, WILLIAM J.
Official nominee for president of ASCE, °, p53 ... May 27
HENRIQUES, A. G.
EN-R has news plus guts, RC p4 ... Jan 3
HIIL, HERBERT
NAACP's labor secretary says contractors can't duck legal resonsibility, °, p26 ... Feb 4
HILL, HOWARD E.
Acting highway director appointed in Mich, p49 ... Feb 25
HOLCOMBE, A. L.
The meaning of the term: engineer, RC p16 ... Mar 18
HOLMAN, J.
Free enterprise still at stake? RC p12 ... Jan 28
HOLUM, KENNETH
Asst. Secretary Interior heads interagency task force for Potomac planning, °, p40 ... May 13
HOOVER, HERBERT
Commemorative stamp, B p23 ... Jan 7
HUNTING SURVEY CORP LTD OF CANADA
Purchased by Lockwood, Kessler of N.Y, B p27 ... Apr 29
HURSH, J. R.
No wage-price controls, RC p20 ... Feb. 11
IVES, HOWARD S.
Conn. highway commissioner endorses beauty, °, p20 ... Feb 25
JAMIESON, JOHN
Appointed Minn. Highway head, p62 ... Jun 10
JANNSSON, O. C.
The meaning of the term: engineer, RC p8 ... Mar 18

JANSEN, ROBERT B.
Replaces Brown in Calif. dam pact. p49 ... Feb 25
JOHNSON, DRAKE & PIPER
Headed toward new ownership. p85 ... Apr 15
JOHNSTON, BRUCE G.
Intuition, imagination, and science of structural engineering. RC p22 ... Apr 8
JOHNSON, LYNDON B. (Mrs.)
Takes job of beautifying America. *. p21 ... Feb 25
KAISER INDUSTRIES CORP.
A loss-leader. CW p15 ... Mar 4
KEIM, PAUL F.
Explain questionable activity to the judge. RC p20 ... Feb 11
KELLER, CHARLES Jr.
Former AGC president cleared, antitrust violation charge dismissed in New Orleans. CW p13 ... Jan 7
KEPPEL, FRANCIS
Commissioner of Education. *. p27 ... Jan 14
KETCHUM, MORRIS, JR.
Leads American Institute of Architects war against ugliness. **. p59 ... Jun 10
KIEWIT, PETER SONS' CO.
Loses claim for $5.2 million. p63 ... Mar 4
KLINGER, W. A.
Past president of AGC pinpoints problem areas. *. p46 ... Mar 18
KLUCZYNSKI, JOHN C.
Takes over House roads subcommittee. *. p26 ... Jan 14
KNOX, JOE
Mr. Waterworks retires from New Eng. Water Pollution Control Comm.. *. p95 ... Jan 28
KOHL, JOHN C.
Transportation progress needs orderly process. RC p10 ... Apr 29
KOWLESKI, JOSEPH
Who may claim the title of engineer? RC's p32 ... Jan 28
LARSEN & NIELSEN
Danish prefabricator exports apartments to Berlin, **. p76 ... May 27
LARSON, PAUL ERIK
Denmark claims longest Scandinavian bridge, not Sweden. RC p14 ... Apr 22
LAWSON, W. V.
Fuller chief makes buying offer. *. p85 ... Apr 15
LEDERMANN, ROBERT, C.
For zoning reform. RC p4 ... Jun 9
LEGGET, ROBERT F.
Becomes president of ASTM. **. Cover and p57 ... Jun 24
LEHMANN, O. M.
Meager coverage of foreign projects in ENR. RC p32 ... Mar 18
LEROUX, RAOUL R.
Why foreign students stay in the U. S. RC p9 ... Apr 22
LEWIS, MILTON
President of Ralph M. Parsons Co. p50 ... Mar 11
LILLICROP, ROGER A.
General manager of Albert C. Martin & Associates. *. p100 ... Feb 18
LITSCHER, CHRISTIAN J.
Grass roots gripe on water pollution. RC p42 ... Apr 8
LOCKWOOD, KESSLER & BARTLETT, INC., SYOSSET, N.Y.
Expect to purchase Hunting Survey Corp. CW p15 ... Mar 11
Purchase agreed to. B p27 ... Apr 29
LONG, RUSSELL B.
Asks temporary tolls to speed construction of interstate highways. *. p27 ... Mar 25
LOVELL, C. W., JR.
Research precedes field tests. RC p12 ... Jan 28

MACKENZIE, EILEEN
Letter from Rio: Exploding population makes Latin beauty lift her face. **. p74 ... Jan 28
MACKINTOSH, IAN B.
U.S. methods and machines build French dam. **, map, diag. p62 ... Feb 18
Credit on Mont Cenis dam. RC p8 ... May 13
MAFFETT, LLOYD
PEs to the barricades: Status of engineers and architects. RC p9 ... Apr 22
MAHAFFEY, DONALD
Correction of Test Stand story. RC p28 ... Jun 17
MALAN CONSTRUCTION CO, NEW YORK CITY
Pays Consolidated $½m on O'Hare Airport job. p185 ... May 27
MARDIAN, DANIEL
Helped spark AGC convention bid-listing procedure. *. p27 ... Mar 25
MARSHALL, A. FRANK (Jr.)
Don't knock Texas soil. RC p18 ... Feb 18
MARTIN, ALBERT C., & ASSOCIATES
Consultants expand concept of architect-engineer services. **. p100 ... Feb 18
MARTIN, JOHN T.
Forty years of building big ones. *. p210 ... Jun 17
MASTERS, F. M.
Part-welded bridge. RC p10 ... Feb 25
MATSUDA, FUJIO
In Hawaii. Transport's his name. *. p131 ... May 27
McCABE, JOHN S.
Detergents in water pollution. RC p24 ... Mar 18
McDONALD, JOHN D.
Weak link a weak argument? RC p6 ... Feb 25
McGUIRE, W. S.
Who may claim the title of engineer? RC p32 ... Jan 28
McKEE, WILLIAM F. (Gen.)
Becomes administrator of the Federal Aviation Agency. p51 ... May 6
McKEEVER, RALPH R.
Cooperation cut flood damage. RC p10 ... Apr 29
MCMORRAN, J. BURCH
New York State's superintendent peers into future highway needs. *. p20 ... Feb 25
MEANY, GEORGE
Rebuked on non-unionized men right to work. p55 ... Jun 17
MEDBERY, H. C.
Is the designer the weak link? RC p8 ... Apr 15
MEHLENBECK, WILLIAM D.
Contractor license in Illinois. RC p14 ... May 27
MERKLE, J. G.
Let's keep the old world. RC p26 ... Jan 28
MERRITT, FREDERICK S.
EN-R senior editor leaves to join consulting engineers. *. p74 ... Apr 15
MERRITT-CHAPMAN & SCOTT
Dam bill paid, with compliments. p49 ... Jan 28
Power on line is 16 months ahead of schedule. CW p15 ... May 20
MODJESKI & MASTERS, HARRISBURG, PA
Tennessee court denies firm's design preference. p30 ... Apr 15
MOFFETT, ELWOOD
District 50: A union on the move. **. p90 ... Apr 15
MOORE, WILLIAM V.
Consulting Engineers Council rivals with National Society of Professional Engineers. **. p54 ... May 27
MORETTI, LUIGI
Designers throw curves to a computer. **. p24 ... Jun 3
MORRIS, JOHN H.
Why feed the steers? RC p10 ... Jan 14
MORRISON-KNUDSEN CO.
Largest volume of business in firm's history. B p63 ... Jun 17
MOSS, JOHN P
Alabama contractor heads American Road Builders Asso. *. p50 ... Mar 4
MOUTON, BILL
Frames New Orleans' skyscrapers. **. Cover and p141 ... Apr 8
In heresy and in history is economy. RC p8 ... May 13
"Debunks" engineering analysis. RC p29 ... May 27
MUIR, H. H.
John Hancock center design criticised. RC p14 ... Apr 22
MUSKIE, EDMUND
Chairman of the Senate Public Works Committee. *. p47 ... Jan 28
NASHERT, WALTER
Elliptical dish gets record for cable-supported roofs over Okla. state fair arena. **, diag. p66 ... Mar 18
NERVI, PIER LUIGI
Engineering consultant for San Francisco cathedral. *. p49 ... Jan 28
NES, CHARLES
Becomes vice president of American Institute of Architects. *. p19 ... Jun 24
O'HARA, HARRY E.
President of Allen Bros. & O'Hara, Inc.. *. p38 ... Apr 1
PAINTER, R. J.
Executive secretary emeritus of ASTM dies. *. p190 ... Mar 18
PARCEL, JOHN
Partner of Sverdrup & Parcel dies at 86. *. p214 ... Jun 17
PARKHURST, JOHN D.
Detergents in water pollution. RC p24 ... Mar 18
PATTON, RICHARD E.
Cost-saving idea for Little Goose lock. *. p98 ... May 27
PEDLEY, ERIC L.
Manila, not wire mesh is used for safety nets. RC p4 ... Jun 3
"Success Pie" is good. RC p18 ... Feb 18
PERRILL, D. W.
Correction in sewage construction forecast. RC p16 ... Apr 15
PERSON, JOHN L.
Becomes Executive Vice President of National Rivers and Harbors Congress. B p63 ... Jun 17
PLOTKIN, EDWARD S.
Method for supporting earth should not be done on a do-it-yourself basis. RC p6 ... Jan 7
POSEY, CHESLEY J.
Gophers, not moles is better name for tunnel machine. RC p23 ... Jun 17
POWELL, ADAM CLAYTON
Heads House Education Committee. *. p27 ... Jan 14
QUADE, MAURICE N.
Old firm forges success from versatility. **. Cover and p48 ... Feb 4
REED, CARLTON D.
Bridge contractor named president of Maine Senate. p49 ... Feb 25
REMUS, GERALD
Water boss ponders Detroit's needs. **. p58 and cover. ... Apr 22
RETZ, ROLF T.
Favors Government research. RC p10 ... Jan 21
REYNOLDS, R. S.
Memorial Award goes to the Engineering building at Leicester Univ.. *. p21 ... Jun 3
RICKER, JOSEPH P.
Corrected credits in Pittsburgh stadium article. RC p26 ... Jan 28
RITTER, BETTY J.
Correction on AIA award plan. RC p10 ... Apr 29
ROCHA, MANUEL
U. S. clients of Portugese lab identified. RC p16 ... Mar 25
ROCKEFELLER, LAURANCE S.
White House conference on beauty: Ramrod for the natural beauty conference. *. p17 ... Jun 3
RONCARELLI, FRANK
Is the designer the weak link? RC p8 ... Apr 15
ROYER, D. K. & PRUGH, B. J.
No neophytes here. RC p20 ... Feb 11
SAXE, VAN RENSSELAER P.
Public and architectural good design is not frills. RC p10 ...
SCHMIDT, W. C.
Sukarno's obelisk. RC p32 ... Jan 28
SCHNABEL, HARRY JR.
Who is first in bolting timber lagging to studs? RC p42 ... Apr 8
SCHUMAKER, CAROL (MRS.)
Appointed senior highway engineer in Calif. p98 ... Jan 28
SCRANTON, W WILLIAM
Will ask legislature for $1.6 billion to build highways. CW p23 ... Jan 21
SHEETS, WILLIAM L.
Becomes president of National Construction Association. *. p50 ... Jan 28
SHIBASAKI, M.
Beams are prestressed, not precast. RC p32 ... Feb 11
SIMON, ROBERT, E.
Developer for Reston. *. p56 ... Jan 28
SMITH, WILLIAM A.
Correction of Jacksonville, Fla. formwork collapse. RC p38 ... Jun 17
SMYLIE, ROBERT E.
Idaho Governor explains water legislation. RC p14 ... May 13
SOFARELLI, PATRICK M.
If the sub did it, say so. RC p32 ... Feb 11
SOMERVILLE, J. C.
Weak link a weak argument? RC p6 ... Feb 25
SPARKMAN, JOHN J.
Head of commission on Intergovernmental Relations on land-taking costs. *. p27 ... Jan 21
SPHAR, LELAND L.
The meaning of the term: engineer. RC p8 ... Mar 8
SPIRO, R. P.
Correction of plastic forms formula. RC p14 ... May 13
STEELE, W. P.
Senior vice president of Allen Bros. & O'Hara, Inc.. *. p38 ... Apr 1
STEIN, MURRAY
Chairman of Detroit conference on water pollution. *. p20 ... Jun 24
STEINBORN, SYDNEY
Public and architectural design is not frills. RC p10 ... Jun 10
STEINER, FRANK D.
Second thoughts on floods. RC p16 ... Mar 25
STIRLING, JAMES
R. S. Reynolds memorial award goes to English architects for Engineering Building at Leicester Univ.. *. p21 ... Jun 3
STRAIT, W. L.
The meaning of the term: engineer. RC p16 ... Mar 18
STUBBS, ALLAN H.
Contractor sublisting stirs controversy. RC p8 ... May 13
STUBBS, F. W. (JR.)
Delaware Memorial Bridge is not self-anchored. RC p8 ... May 20
SWIDLER, JOSEPH P.
Federal Power Commission Chairman in the new Water Resources Council. *. p51 ... Apr 8
White House conference on beauty: Power lines can be buried, but its costly. *. p17 ... Jun 3

TALBOT, W. J.
Robert S. Cooper & Assoc. consultants for tieback system of Wells Fargo Building. RC p14 ... Apr 22
TAYLOR, HOBART (Jr.)
Disclosed new federal antibias program for construction industry. *. p27 ... Mar 25
TERRY, LUTHER
Health program puts him in limelight. *. p27 ... Jan 14
TULLER, J. D.
Labor union leaders' legislation involves serious implications. RC p10 ... Jan 14
TURNBULL, WILLIAM J.
Wins top Pentagon award. *. p213 ... Jun 17

UDALL, STEWART L
Strong voice for water, recreation. *. p26 ... Jan 14
Great Society in a beautiful America. *. p22 ... Mar 11
Probable chairman in the new Water Resources Council. *. p51 ... Apr 8
VAN ORDEN, ROY C.
Manages Wilshire division of Albert C. Martin & Associates. *. p100 ... Feb 18
VANDERLINDEN, W. H. JR.
NBCA's president believes quality of asphalt will sell quantity. **. p136 ... Feb 11
VOORHEES, STEPHEN F.
Famous New York architect dies. p49 ... Jan 28

WADDELL, JOSEPH J.
Concrete Institute officer compliments ENR construction inspection. RC p8 ... May 20
WALLACE (SAM P. & CO.)
Subcontracting can be big business. **. p70 ... Apr 15
WEAVER, ROBERT
The city's problems are his. *. p27 ... Jan 14
Great Society on a limited budget. *. p19 ... Mar 11
WEESE, HARRY
Praise of Severn Bridge. RC p32 ... Mar 18
WEISSMAN, MICHAEL
The meaning of the term: engineer. RC p8 ... Mar 18
WERTS, LEO R.
Manpower changes in Department of Labor. RC p29 ... May 27
WHITTON, REX M.
White House conference on beauty: Highways must not be a scourge on the land. *. p17 ... Jun 3
WIDEMAN, B. A.
The meaning of the term: engineer. RC p8 ... Mar 18
WILSON, WALTER K. (GEN)
Will join Southern Industries Corp in July. B p32 ... May 13
Corps of Engineers honors Wilson in retirement. p34 ... Jun 10
WING, WAYMAN C.
Vital omission—seismic design. RC p4 ... Jun 3

ZETLIN, LEV
Advocates a fresh approach to structures. **. Cover and p46 ... Mar 4
Intuition, imagination, and science of structural engineering. RC p32 ... Apr 8
More on intuition and structural engineering. RC p6 ... May 27

ENGINEERING NEWS-RECORD

Published By ENGINEERING NEWS-RECORD
Copyright McGraw-Hill, Inc., 1965